INTERNATIONAL PERSPECTIVES ON EXERCISE MEDICINE

EXERCISE IN THE PREVENTION AND TREATMENT OF CHRONIC DISEASE

Winston Churchill Memorial Trust Fellowship Report

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Churchill Fellow of 2010
Physical inactivity has been labelled “the greatest public health threat of the 21st century”. The health costs of inactivity are staggering: around one third of all deaths are due to diseases which could be improved by increased physical activity. Exercise is an extraordinarily effective prescription to combat chronic disease, perhaps the most effective. It is invaluable in the prevention of chronic disease while its utility in the treatment and rehabilitation of chronic health problems is rapidly gaining recognition in the UK. Healthcare professionals are urged to prescribe the ‘exercise pill’, yet there is limited experience of exercise prescription in the National Health Service (NHS). Sport and Exercise Medicine (SEM) physicians are primed to play a key role in the development of exercise programmes for the prevention and treatment of chronic disease. However there are currently few exercise medicine programmes available to patients on the NHS and experience for trainees in SEM is limited.

In late 2010 I completed a fellowship in sport and exercise medicine under a generous grant from the Winston Churchill Memorial Trust. The aim of my fellowship was to develop the skills and experience needed to establish exercise medicine programmes for the prevention and treatment of chronic disease within the NHS.

My fellowship travels took me to Kaiser Permanente – Southern California Healthcare, the birthplace of the “Exercise is Medicine” programme; the University of California, Los Angeles (UCLA) Medical School, where exercise rehabilitation for chronic obstructive pulmonary disease (COPD) is under trial; Stanford University’s Department of Sports Medicine and Health Improvement Programme (HIP), a large, well-established workplace wellness initiative; the Veterans Affairs (VA) Palo Alto Healthcare System, the home of considerable cardiac rehabilitation research; Melbourne’s Victoria University Exercise Rehabilitation centre (VUER) and Deakin University Clinical Exercise (DEUCE); and finally to the Sports Science Institute of South Africa’s (SSISA) chronic disease risk reduction and reversal programme “MediFit.” These centres practice different facets of exercise medicine in different ways and in diverse settings, affording me the opportunity to learn and gain valuable experience of the breadth of exercise medicine.
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GROUP EXERCISE PROGRAMMES

The Cardiology Division at VA Palo Alto Healthcare System has, over the years, been the source of a significant body of evidence for exercise in the treatment of cardiovascular disease. Leading this research is Dr Jonathan Myers, PhD, a member of the American Heart Association’s Exercise, Cardiac Rehabilitation and Prevention Committee and author of the AHA’s guidelines on cardiopulmonary exercise testing. He has published widely on exercise rehabilitation, calling it the “missing prescription”. The division is currently running a major National Institute of Health-funded research programme on exercise rehabilitation in abdominal aortic aneurysm disease. Patients enrolled on the programme undergo pre- and post-programme cardiopulmonary exercise testing. They attend a dedicated hospital-based gym for exercise rehabilitation three times per week for three years under the supervision of experienced exercise physiologists. Preliminary results from the study have been very encouraging.

In contrast, the MediFit programme at the Sports Science Institute of South Africa, led by Professor Martin Schwellnus, a Consultant in Sport and Exercise Medicine, de-emphasises the disease-based approach. The majority of patients referred to MediFit have at least one, if not several co-morbidities. They make the point that focusing on and treating one disease only will not do enough to restore their functional capacity. Patients referred into the MediFit programme are reviewed by an SEM physician and risk-stratified with a cardiac stress test if required. They attend group exercise rehabilitation classes in a full-size public gym twice a week for twelve weeks supervised by a biokineticist. At the end of the programme they are again reviewed by an SEM physician and, if discharged, are given a self-directed exercise programme with the incentive of subsidised gym membership and access to the rehab team.
Living Strong Living Well is a strength and fitness programme based at Stanford University for those undergoing cancer treatment and cancer survivors. The programme emphasises exercise as part of a healthy, normal lifestyle: exercise rehabilitation takes place in public gyms, supervised by fitness trainers not clinicians. Indeed, there are no “patients” and entry to the programme is by self-referral only. The service is supported by charitable donations allowing it to remain free to users, who attend group sessions twice a week over twelve weeks. Lifestyle education is a key component of the programme.

INDIVIDUAL EXERCISE PROGRAMMES

Professors Christopher Cooper, MD, and Tom Storer, PhD, have amassed a huge research database of cardiopulmonary exercise tests in patients with chronic disease at UCLA Medical School. Their current research includes a comparison of hospital-based pulmonary rehabilitation with individualised home-based exercise rehabilitation for patients with chronic obstructive pulmonary disease, hypothesising that they should demonstrate greater uptake of exercise if people can do it at home rather than having to come into hospital. Patients undergo pre- and post-programme cardiopulmonary exercise testing. Exercise rehabilitation is prescribed by an exercise physiologist and patients perform the exercise programme twice a week for twelve weeks.

Applied exercise physiologists (AEPs) in Australia are licensed to prescribe and provide exercise rehabilitation independently. Professor Steve Selig, PHD, Chair of Clinical Exercise Science at Deakin University’s Clinical Exercise (DEUCE) has been instrumental in establishing accreditation for AEPs and has recently written Exercise & Sports Science Australia’s Position Statement on exercise training and chronic heart failure. Both DEUCE and Victoria University Exercise Rehabilitation (VUER), led by Dr Suzanne Broadbent, PhD, run exercise rehabilitation programmes on referral from general practice. The programmes accept all-comers regardless of disease or functional capacity. After a cardiac stress test, patients are prescribed an exercise programme by an AEP. Exercise rehabilitation is performed once or twice a week in a university gym under close supervision by AEPs or post-graduate AEP students. Those on the programme pay a minimal fee for the service and programmes are open-ended.

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EXERCISE ADVICE ON AN INDIVIDUAL BASIS

Dr Robert Sallis, MD, based at Kaiser Permanente – Southern California Healthcare, is co-chairman of the American College of Sports Medicine’s “Exercise is Medicine” organisation. In a similar fashion to the brief intervention model with which many GPs will be familiar, “Exercise is Medicine” calls on all healthcare professionals to assess exercise status and address physical activity levels at every patient consultation. To be effective, this requires appropriate education and the availability of referral options to practitioners. It also needs to become ingrained into the consultation, not only SEM consultations but every healthcare consultation.
PUBLIC HEALTH PROMOTION

The Stanford Health Improvement Programme is a large-scale workplace wellness scheme that covers the 11,000 Stanford faculty, students, and employees. It is founded on promoting wellness in order to encourage productivity and “presenteeism” (as opposed to absenteeism) and thereby reduce the burden of sickness on the institution. The programme is endorsed by the university administration. It is run by behavioural psychologists who emphasise the importance of removing the barriers to participation in physical activity. Through campus-wide communication they promote subsidised exercise classes, dance classes and gym membership. If access to the gym is difficult they will arrange for trainers or instructors to go to the workplace. They encourage group classes and regular contact; they provide free educational talks and lifestyle advice. Finally, the programme makes full use of a range of incentives for meeting goals in healthy eating, active transport, fitness class attendance or attaining agreed fitness targets.

LESSONS

There are many issues that remain unresolved. Adherence to an exercise programme is one such problem familiar to all the programmes I visited, although several common strategies to address this were evident. The majority acknowledged the importance of the peer motivation that develops in a group setting. Several schemes required self-referral only as the drop-out rate is significantly less than those referred by clinicians. Many were run by, or had close involvement with, behavioural psychologists experienced in strategies to encourage behaviour change.

Through observing such programmes I learnt a great deal about the administration and practicalities of developing an exercise rehabilitation service. Yet it was through talking with people so closely involved in exercise rehabilitation that I learnt the most, far exceeding my expectations. A number of lessons, amongst many, are particularly worth noting.

Chief amongst these lessons is that healthcare professionals should focus less on the ‘disease model’, where everyone is a patient with a defined medical problem which needs to be treated. We would do well to think in terms of the ‘health model’ instead, linking health to fitness and self-management, where exercise is part of the lifestyle not just part of the recovery. We should address “functional capacity” (of which physical activity is
major part) in every consultation. Restoring and enhancing functional capacity will have the most dramatic
effect on quality of life and this may be the incentive to continue exercising.

Everyone can give exercise advice and prescribe the exercise pill, and everyone should be doing it, at every
healthcare consultation. This is true of all healthcare professionals, whether they are nurses, physiotherapists,
hospital doctors, GPs, or SEM doctors, but they need to be confident and educated in giving advice. The referral
pathways need to be clear and accessible as it is vital that entry into the system is easy for all.

Smoking has been one of the most successful lifestyle and behaviour change campaigns in recent years. We
would do well to learn from, if not join forces with, such successful lifestyle campaigns to present a complete
package of wellness and health rather than struggle to be seen and heard amongst disparate campaigns and
competing voices.

We should not be afraid to use marketing specialists in publicising services. Marketing may not be a core skill
taught to most in the NHS, but it is an important means to promote the benefits of physical activity, to the
profession as well as to the public. Successful demonstration projects need to be publicised to create a buzz
such that physical activity can no longer be ignored.

This fellowship has reinforced to me the importance of physical activity in the prevention and treatment of
chronic disease and given me a unique insight into a variety of different exercise medicine programmes. Since
my return I have been working towards establishing the “Exercise is Medicine” organisation in the UK and with
the knowledge and experience gained from this trip I hope to begin the process of setting up an exercise
medicine service.

As sport and exercise medicine practitioners, we are uniquely qualified to encourage, develop and direct
physical activity services and pathways, yet there is no one-size-fits-all approach. We are at the forefront of one
of the most exciting branches of medicine with the potential to have perhaps the greatest impact on health
improvements. In the absence of a single solution, we need to be adaptable to different situations and to the
needs of different populations and responsive to the changing political and NHS environment.

The greatest gain initially may be in health promotion. There are 42 000 GPs in the UK. Imagine what could be
achieved if each of those GPs were to check their patients’ physical activity vital signs? There is a lot yet to
learn but this should not prevent us from beginning the process.

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