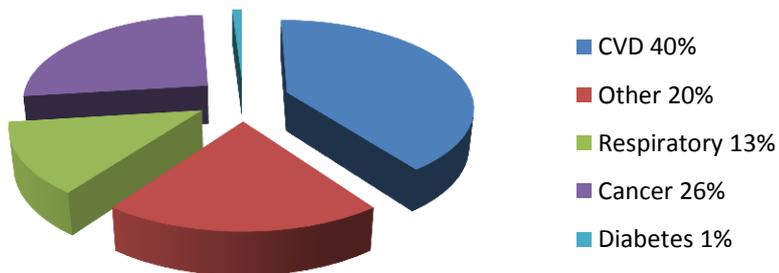


## Phase IV Cardiac Rehabilitation

Cardiovascular disease encompasses all disorders of the heart and blood vessels and accounts for 40% of UK death (figure 1). In the UK coronary heart disease is the most common cause of premature death (death before the age of 75), accounting for just under 114,000 deaths in 2003 (BHF, 2005).

**Fig.1 UK deaths by cause 2002:  
BHF 2004**



The incidence of myocardial infarction (heart attack) for men aged between 30-69 is about 600 per 100,000 and for women in the same age group is about 200 per 100,000. This resulted in 142,00 heart attacks in men and 117,500 in women in 2002. Data from the 2003 Health Survey for England suggest the prevalence of coronary heart disease in England is 7.4% in men and 4.5% in women. This suggests that the total number of people in the UK who have coronary heart disease approximates 2.6 million.

The groups of patients who are offered rehabilitation include those recovering from acute myocardial infarction, revascularisation procedures (such as coronary artery bypass graft surgery and percutaneous coronary interventions), patients with implanted devices (such as pacemakers and implanted cardioverter defibrillators), patients with heart failure and patients who have had transplant surgery. Rehabilitation programmes have also undergone change and have evolved into comprehensive lifestyle intervention programmes that include structured exercise programmes, psychological support and education as well as advice on risk factors and lifestyle changes known to reduce the risks of recurrent events.

In the UK cardiac rehabilitation is traditionally described in terms of phases of recovery.

Phase I	=	Inpatient stage
Phase II	=	Early discharge period
Phase III	=	Clinically supervised outpatient programme
Phase IV	=	Longterm maintenance of physical activity and lifestyle change. (Coats et al., 1995).

Various professional competency documents have been developed to ensure that the professionals who deliver cardiac rehabilitation have the necessary skills. The Skills for Health Coronary Heart Disease Competence Framework (DOH, 2003) describes the activities of those working in the field of coronary heart disease, the standard of performance expected and the knowledge and skills required. The Association of Chartered Physiotherapists Interested in Cardiac Rehabilitation have also developed specific competencies for the care and management of coronary heart disease patients who attend the Phase II exercise component.

**IT IS HIGHLY RECOMMENDED THAT PATIENTS DO NOT UNDERTAKE REHABILITATION IN THE UK WITH INSTRUCTORS WHO DO NOT POSSESS A VALID PHASE IV REHABILITATION QUALIFICATION.**

Cardiac rehabilitation is a relatively safe undertaking for the vast majority of clinically assessed individuals; an American study (Franklin et al., 1998) indicated that the incidence of cardiac arrest, non-fatal arrhythmia and death is approximately one for every 117,000, one for every 220,000 and one for every 750,000 patient hours or cardiac rehabilitation respectively. This relatively high level of safety is probably attributable to detailed patient screening and appropriately trained staff.

The effectiveness of cardiac rehabilitation in regards to mortality has been well documented; early meta-analyses demonstrated that patients who attended exercise-based cardiac rehabilitation after a myocardial infarction had a significantly lower rate of all cause and cardiac mortality of 20-25% compared to those patients who did not attend (Oldridge, 1998; O'Connor, 1989). A more recent meta-analysis demonstrated an independent effect of exercise: in 2,485 men and women of all ages with previous myocardial infarction, revascularisation and angina, exercise-only cardiac rehabilitation demonstrated that all cause mortality was 27% lower and cardiac mortality was 31% lower compared with patients receiving usual care.

In addition to improved survival rates, the effectiveness of cardiac rehabilitation programmes has been demonstrated in terms of reduced hospital admissions, better control of symptoms, improved quality of life, improved compliance with lifestyle modifications that are known to reduce the risk of further events and reduced anxiety and depression.

**PATIENTS WHO TRAIN WITH AN UNSUITABLY QUALIFIED PRACTITIONER INCREASE THEIR RISK OF FURTHER EVENTS INCLUDING MYOCARDIAL INFARCTION, STROKE, STRUCTURAL DAMAGE TO THE HEART, CHEST PAIN, BREATHING DIFFICULTIES AND DEATH.**

UCS Active is registered with the British Association of Cardiac Prevention & Rehabilitation as a Phase IV Cardiac Rehabilitation Centre.

Richard Brennan, BSc., MSc., BACR. is a clinically trained Exercise Physiologist and member of the British Association of Sport & Exercise Scientists. Based at UCS Active he provides 1-2-1 Phase IV Cardiac Rehabilitation. Richard completed his training at The Hatter Institute, part of the Institute of Cardiovascular Sciences of University College London. The Hatter institute continues to lead research in the areas of ischaemic reperfusion injury, cardioprotection and cardiac mitochondrial function and dysfunction.

Richard is trained to rehabilitate patients who have/have had/are on:

- Coronary Bypass Surgery
- Heart Valve Surgery including valve transplant
- Heart Transplant
- Coronary Artery/Heart Disease (CAD/CHD)
- Pacemaker/Defibrillator insertion
- Cerebrovascular Accident (stroke)
- Hypertension
- Drug Therapy including STATINS, ACE INHIBITORS, BETA BLOCKERS, ANGIOTENSIN II RECEPTOR BLOCKERS, ANTI-ARRHYTHMICS, ANTI-COAGULANTS, CALCIUM CHANNEL BLOCKERS & NITRATES.

Please contact Richard directly if you require further information. Richard adheres to BASES & BACR guidelines concerning confidentiality, anonymity and data protection.