

# CONCEPTS OF REHABILITATION FOR THE MANAGEMENT OF COMMON HEALTH PROBLEMS: EVIDENCE BASE

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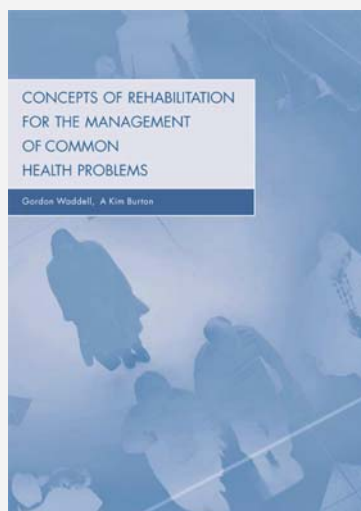
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These Appendices present the Tables of Evidence that support the report, together with the associated references.

The Executive Summary from the main report is also included.

The authors are solely responsible for the scientific content and the views expressed, which do not represent the official views of the Department for Work and Pensions or HM Government.

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## Executive Summary

There is now broad agreement on the importance of rehabilitation and the need to improve occupational health and vocational rehabilitation in UK. However, there is considerable uncertainty about what 'rehabilitation' is, and about its (cost)-effectiveness, particularly for the common health problems that cause most long-term disability and incapacity. The aim of this paper is to develop a theoretical and conceptual basis for the rehabilitation of common health problems.

The stereotype of disability is a severe medical condition with objective evidence of disease and permanent physical or mental impairment (e.g. blindness, severe or progressive neurological disease, or amputation). In fact, most sickness absence, long-term incapacity for work and premature retirement on medical grounds are now caused by less severe mental health, musculoskeletal and cardio-respiratory conditions. These 'common health problems' often consist primarily of symptoms with limited evidence of objective disease or impairment. Importantly, many of them are potentially remediable and long-term incapacity is not inevitable.

Rehabilitation has traditionally been a separate, second-stage process, carried out after medical treatment has no more to offer yet recovery remains incomplete: the goal was then to overcome, adapt or compensate for irremediable, permanent impairment. That approach is inappropriate for common health problems, where the obstacles to recovery are often predominantly psychosocial in nature rather than the severity of pathology or impairment. In this situation, rehabilitation must focus instead on identifying and overcoming the health, personal/psychological, and social/occupational obstacles to recovery and (return to) work.

This implies that rehabilitation can no longer be a separate, second stage intervention after 'treatment' is complete. The evidence shows that the best time for effective rehabilitation is between about 1 and 6+ months off work (the exact limits are unclear). Earlier, most people recover and return to work uneventfully: they do not need any specific rehabilitation intervention and the priority is not to obstruct natural recovery. Later, the obstacles to return to work become more complex and harder to overcome: rehabilitation is more difficult and costly, and has a lower success rate. To take maximum advantage of this window of opportunity and minimize the number going on to long-term incapacity, rehabilitation principles should be an integral part of good clinical and occupational management:

- Clinical management should provide timely delivery of effective health care, but that alone is not enough. The primary goal of health care is to treat disease and provide symptomatic relief, but too often that fails to address occupational issues. Rehabilitation demands that health care should *both* relieve symptoms and restore function, and these go hand in hand. Work is not only the goal: work is generally therapeutic and an essential *part* of rehabilitation. Every health professional who treats patients with common health problems should be interested in and take responsibility for rehabilitation and

occupational outcomes. That requires radical change in NHS and health professionals' thinking.

- Common health problems are not only matters for health care, but much broader public health issues of 'health at work'. Sickness absence and return to work are social processes that depend on work-related factors and employer attitudes, process and practice. This requires employers, unions and insurers to re-think occupational management for common health problems: addressing all of the health, personal and occupational dimensions of incapacity, identifying obstacles to return to work, and providing support to overcome them. The same principles are equally applicable to job retention, early return to sustained work and reintegration.
- This should not obscure the importance of the individual's own role in the management of common health problems. Rehabilitation is an active process that depends on the participation, motivation and effort of the individual, *supported by* health care and employers.

Better clinical and occupational management and rehabilitation of common health problems is the best way to reduce the number of people going on to long-term incapacity. Even with the best possible management, however, some will always need further help; consideration must also be given to long-term benefit recipients. Social security is then not just about paying benefits: the 'welfare to work' strategy is also about providing support to (re)-enter work. Rehabilitation in a DWP context must address the additional obstacles facing people who are more distanced from the labour market, including the particular problems of the 'hard to help', the disadvantaged and excluded, and those aged > 50-55 years. It must also fit the practicalities of the DWP context, including issues of: early identification of those at risk; recruitment, engagement and retention; incentives, disincentives and control mechanisms.

Action depends on accepting ownership of the problem. Everyone – workers; employers, unions and insurers; health professionals; government and the taxpayer – has an interest in better outcomes for common health problems. Effective management depends on getting 'all players onside' and working together to that common goal. This is partly a matter of perceptions (by all the players). It requires a fundamental shift in the culture of how we perceive and manage common health problems, in health care, in the workplace, and in society.

Better management and rehabilitation of common health problems is possible, can be effective, and is likely to be cost-effective. We have sufficient knowledge and evidence to reduce sickness absence and the number of people who go on to long-term incapacity, and to improve job retention, return to work, and reintegration. All of these outcomes could potentially be improved for the common health problems by at least 30-50%, and in principle by much more (fully recognising the practical problems of achieving this).



## **Appendix 1**

**Table A1 UK reports on rehabilitation policy and services**

<b>Source</b>	<b>Title</b>	<b>Description</b>
Tomlinson Report (Tomlinson 1943)	Report of an inter-departmental committee on the rehabilitation and resettlement of disabled persons. (accompanying the Beveridge Report (Beveridge 1942)	Made recommendations on the organization and responsibilities of various government departments, legislation for a register of disabled persons, employment quotas, sheltered employment and Employment Rehabilitation Centres. The opening words recognized that 'The successful rehabilitation of a person disabled by injury or sickness is not solely a medical problem' and that 'close co-operation between the Health and Industrial services is necessary throughout the whole process.' 'Ordinary employment is the object and is practicable for the majority of the disabled - with the goodwill and co-operation of the representative organisations of employers and work people, in conjunction with the Health services and the responsible Government Departments.'
Piercy Report (Piercy 1956)	Report of the Committee of Inquiry on the rehabilitation, training and resettlement of disabled persons.	Defined rehabilitation: 'in its widest sense signifies the whole of the process of restoring a disabled person to a condition where he is able as early as possible to resume a normal life'. However, decided to confine its discussion to 'medical and surgical treatment designed to restore physical and mental functions and to the process of re-conditioning designed to restore the capacity for taking up employment and vocational training' i.e. to the medical aspects of disablement.
Tunbridge Report (Tunbridge 1972)	Rehabilitation: report of a sub-committee of the Standing Medical Advisory Committee.	Comprehensive review of 'rehabilitation of the sick and injured'. Reported on the deficiencies and failures of current services and made recommendations on 'the future provision of rehabilitation services, their organisation and development' for the Dept of Health and Social Security (England and Wales). Emphasised that "medical rehabilitation has the fundamental objective not only of restoring the disabled person to his previous condition, but also of developing to the maximum extent his physical and mental functions. It aims not only at 'physical cure' but also at 'social cure'
Mair Report (Mair 1972)	Medical rehabilitation: the pattern for the future. Scottish Home & Health Dept.	Remit was 'to consider ways and means of achieving an active rehabilitation approach which will permeate the medical care system' for the Scottish Home and Health Dept. Reported on the deficiencies and failures of current services and made recommendations on 'the future provision of rehabilitation services, their organisation and development'. Emphasised that 'Rehabilitation implies the restoration of patients to their fullest physical, mental and social capability. Rehabilitation must therefore take cognisance of the individual and his environment.'
Joseph Rowntree Foundation (Gardiner 1997)	Bridges from Benefit to work: a review.	A study of 42 welfare-to-work programmes in the UK, evaluated on 3 indicators: additionality, take-up, net cost. Schemes grouped into 8 categories: training/education programmes, job search measures, incentives for employees, public job creation, out-of-work benefits, in-work benefits, assistance with job-related costs, transitional assistance measures. Assesses Government's proposed welfare-to-work reforms, including the New deal, in the light of the main findings.
Royal College of Physicians (Royal College of Physicians 1986)	Physical disability in 1986 and beyond: a report of the Royal College of Physicians	Sets out the views of the Royal College of Physicians' Rehabilitation Committee on the way in which Disability Services in England and Wales might be developed. It concentrates on the medical aspects of physical disability, with the focus on traditional rehabilitation services for 15 specific areas of disability, none of which are covered by the term 'common health problems'.

Source	Title	Description
Social Security Advisory Committee (Thornton et al. 1997) International Labour Office (Thornton 1998)	Job retention and return to work strategies for disabled workers.	International comparison of various arrangements and employer responsibilities to support and assist disabled people to return to work in different countries. In practice, most systems appear to leave at least initial rehabilitation efforts to the health care system. In every country in practice there are major medical, administrative and even legal obstacles to early interventions designed to promote return to work. Assessment for rehabilitation is still dominated by medical issues and most clinicians' lack of knowledge, awareness or even interest about occupational and rehabilitation issues. There are often long delays of months for assessment. There are limited facilities for rehabilitation. Often, workers have lost their jobs before they actually receive any active rehabilitation. There is often insufficient, fragmented and reduced state financing, multiple providers, and competing philosophies and policy aims.
Audit Commission & King's Fund (Nocon & Baldwin 1998)	Trends in rehabilitation policy: a review of the literature	The Audit Commission and the King's Fund jointly commissioned this literature review to examine the meaning of rehabilitation, the provision of it and responsibilities for rehabilitation services within health and social care, and trends in the availability of provision.
British Society of Rehabilitation Medicine (BSRM 2000)	Vocational rehabilitation: the way forward	Reviews deficiencies within vocational rehabilitation, barriers to return to work, and good practice. Notes increasing, detrimental, separation of employment and health services. Advises closer liaison between National Health Service and Employment services, calls for a National service Framework for vocational rehabilitation, recommends a new Institute for Vocational Rehabilitation, and encourages training programmes for health professionals, employment advisors and case managers.
Royal College of Physicians (Marks et al. 2000)	Medical rehabilitation for people with physical and complex disabilities	Reports on medical practice and training in the rehabilitation field in the UK, with an emphasis on the rehabilitation of adults who need services provided by the speciality of rehabilitation medicine.
Confederation of British Industry (CBI 2000)	Their health in your hands: focus on occupational health partnerships	Reports on a Confederation of British Industry survey of occupational health provision in the UK and makes recommendations for the future direction of occupational health strategy. Discusses various facets of occupational health provision (including the role of health care and regulation).
TUC consultation document (TUC 2000)	Getting better at getting back	A key, 16-page consultation document defining rehabilitation, giving the background, emphasising the importance to unions and employers, considering their roles, and the way ahead.
TUC Research Report (TUC 2002b)	Rehabilitation and retention: the workplace view	These reports give the findings from a survey of safety representatives, providing a snapshot of the approach to rehabilitation, and sickness absence. Supplemented by interviews with managers, occupational health staff, union representatives, and employees. Rehabilitation has business benefits, and good practice on rehabilitation works. Greater effort needed to retain employees affected by poor health, injury or disability – employers have a key role. Rehabilitation should be a policy goal, involving all levels of management along with unions and their members.
TUC Summary Report (TUC 2002a)	Rehabilitation and retention: what works is what matters.	

<b>Source</b>	<b>Title</b>	<b>Description</b>
Health and Safety Commission (HSC 2000)	Revitalising Health and Safety: strategy statement	Government initiative. Revitalising Health & Safety sets out how Government and Health and Safety Commission (HSC) will work together to revitalise health and safety: introduces first ever targets for Great Britain's health and safety system - reductions in: working days lost from work-related injury and ill health (30%), incidence rate of fatal/major injury (10%), incidence rate of cases of work-related ill health (20%), and to achieve half the improvements by 2004. The Action Plan includes measures: to motivate employers, to engage small firms, to put the Government's own house in order, to promote coverage of occupational health and rehabilitation, to secure greater coverage of risk concepts in education.
Health and Safety Executive (HSE 2000)	Securing Health Together: a long-term occupational health strategy for England, Scotland and Wales	Securing Health Together picks up the same targets, and proposes achieving them through five key programmes of work: compliance, continuous improvement, knowledge, skills, support mechanisms, which will be complemented by other Government initiatives such as the Welfare to Work agenda including New Deal, ONE and the developing role of primary care.
DWP In-house Report (Corden & Thornton 2002)	Employment programmes for disabled people: lessons from research evaluations	Review of government programmes designed to assist disabled people claiming benefits to move into or to support retention of employees who become disabled. Six programmes (from various countries) provided data on evaluations, accessibility and participation, services provided, outcomes, funding/costs, and subsequent policy developments.
Work Preparation (Riddell 2002)	Work Preparation and vocational rehabilitation: a literature review	A literature review providing a brief history of the development of vocational rehabilitation in the UK, and also considers specific approaches to vocational rehabilitation drawing on both UK and international literature. Particular processes, components, and outcomes are described. The use of a discrete programme, such as Jobcentre Plus Work Preparation is unique to UK; in other countries people will not be assigned to a programme but directed to a range of services that meet their needs.
Association of British Insurers and Trades Union Congress (ABI 2002)	Getting back to work: a rehabilitation discussion paper	A discussion document from Association of British Insurers and Trades Union Congress concerning the provision of rehabilitation for injury and illness that occurred in the workplace. Discusses the timing and nature of rehabilitation, and reports on activity by unions. Employers, insurance industry, legislative sector, and Government, with illustrative case studies.
UK government Green Papers (DWP 2002; DWP 2003)	Pathways to work: helping people into employment Pathways to work: the government's response to public consultation and action plan.	UK Government consultation document: proposals for supporting people moving onto incapacity benefits. Based around increasing financial incentives to return to work, support and referral via Jobcentre Plus, innovative rehabilitation programmes to help people manage their conditions, and support for people who have to move from incapacity benefit to Jobseekers' Allowance. Focus is on choices. The Government's response details results of the consultation process, and describes delivery of the plan through pilot studies in a representative range of labour markets and geographical locations. A robust evaluation process is proposed, to assess what interventions work best for whom and in what circumstances.



## Appendix 2

**Table A2 Reviews and guidance on occupational management**

<b>Authors</b>	<b>Key features</b> <i>(Additional reviewers' comments in italics)</i>
(Hunt et al. 1993) (Habeck et al. 1998) (Amick III et al. 2000)	<p><b>The series of Michigan studies on the impact of organizational policies and practices</b></p> <p>Organisational policies and practices are important in reducing the number of work-related disabilities and their consequences for the employee and for the company.</p> <p>Hunt et al (1993) described three main areas of organisational policy: 1) health and safety management and prevention; 2) a comprehensive system of disability management; and 3) organisational climate.</p> <p>Habeck et al (1998) identified 11 key characteristics of firms with low claims rates:</p> <ul style="list-style-type: none"> <li>• Safety monitoring, training and culture</li> <li>• Information and communication</li> <li>• Employee participation and rewards</li> <li>• Availability of light duties or modified work to assist return to work</li> <li>• Employee assistance programme</li> <li>• Procedures to monitor and encourage supervisors to assist return to work</li> <li>• Wellness programmes and fitness resources to promote employee health</li> <li>• Continuing screening of employees for job-related health and disability risks.</li> </ul> <p>Amick et al (2000) found that employees agreed on the importance of organizational policies and practices, and identified four main themes: people-oriented culture; safety climate; disability management policies and practices; and ergonomic practices.</p>
(WHO 1995)	<p><b>Global strategy on occupational health for all</b></p> <p>Health at work and healthy work environments are among the most valuable assets of individuals, communities and countries. Occupational health is an important strategy not only to ensure the health of workers, but also to contribute positively to productivity, quality of products, work motivation, job satisfaction and thereby to the overall quality of life of individuals and society.</p> <p>The 10 priority objectives proposed by the strategy were:</p> <ul style="list-style-type: none"> <li>• Strengthening of international and national policies for health at work and developing the necessary policy tools</li> <li>• Development of healthy work environment</li> <li>• Development of healthy work practices and promotion of health at work</li> <li>• Strengthening of occupational health services</li> <li>• Establishment of support services for occupational health</li> <li>• Development of occupational health standards based on scientific risk assessment</li> <li>• Development of human resources for occupational health</li> <li>• Establishment of registration and data systems, development of information services for experts, effective transmission of data and raising of public awareness through public information</li> <li>• Strengthening of research</li> <li>• Development of collaboration in occupational health and with other activities and services</li> </ul>

<b>Authors</b>	<b>Key features</b> <i>(Additional reviewers' comments in italics)</i>
(Cabinet Office 1998)	<p><b>Working well together: managing attendance in the public sector</b></p> <p>This review of best practice in the public sector emphasized the importance of organizational culture and policy, consultation, management commitment and training, clarity of roles and responsibilities. At a practical level, it identified a core set of specific techniques for managing sickness absence:</p> <ul style="list-style-type: none"> <li>• accurate recording and monitoring of absence</li> <li>• early and follow-up contact with absent individuals</li> <li>• return to work interviews</li> <li>• trigger points for action and review</li> <li>• review of individual cases</li> </ul>
(IUA/ABI 1999)	<p><b>The Rehabilitation Code</b></p> <p>Introduced by the International Underwriting Association of London and the Association of British Insurers, the aim of the Code is to promote the use of rehabilitation and early intervention in the claims process, so that the (injured) person makes the best and quickest possible medical, social and psychological recovery - this objective applies whatever the severity of the injury. The possible need for medical treatment and home adaptations is recognised, and there may be employment issues to be addressed. The focus is of the guidance is on the roles of solicitors and insurers, with the aim of ensuring both actively consider the use of rehabilitation. An independent assessment report, to be used outside the litigation process, is advocated (unless the need for rehabilitation has already been identified). Whilst supported by the main relevant associations, the Code is not compulsory.</p>
(Shrey & Mital 2000)	<p><b>Worksite disability management model for effective return to work planning</b></p> <p>Suggests that worksite-based disability management programmes represent a major paradigm shift from traditional rehabilitation interventions that focus on the individual, to more holistic, inter-disciplinary approaches that address both environmental worksite variables and personal worker factors. <i>(Provides a detailed description of the practical details of the return to work process and developing a return to work plan).</i></p>
(Brooker et al. 2000)	<p><b>Disability management and return to work practices</b></p> <p><i>(Narrative review of Canadian examples of good practice for work-related low back pain).</i> Suggests that many of the workplace-specific principles concerning return to work are generic. Different clinical interventions may be pertinent for different stages of recovery, but only those that have a tie-in with the workplace have been shown to be effective at accelerating return to work. Workplace-based interventions are key to facilitating safe and timely return to work of injured workers. Highlights the importance of communication between health care providers and the workplace participants involved in planning the return to work process. Concludes that the following characteristics appear to be particularly important for safe and timely return to work:</p> <ul style="list-style-type: none"> <li>• Supportive workplace policies and climate</li> <li>• Joint labour-management cooperation</li> <li>• Communication and cooperation between the worker, the worker's health care professional, union or worker representative and the workplace</li> <li>• Offers of modified work (preferably of the original job)</li> <li>• Ongoing evaluation of the programme.</li> </ul> <p>Smaller sized firms face particular challenges when it comes to implementing sound disability management practices. They have unique social relationships that present distinct challenges for occupational health and safety. There is currently limited reliable data on the prevalence or effectiveness of return to work policies in Canada, and the authors suggest that attention should focus on the internal and external factors that influence companies implementing such programmes. These could include:</p> <ul style="list-style-type: none"> <li>• Special programmes targeted to help smaller firms</li> <li>• More stringent legislation</li> <li>• Additional financial incentives</li> <li>• Collective bargaining</li> <li>• Programmes geared at educating corporate executives.</li> </ul>

<b>Authors</b>	<b>Key features</b> <i>(Additional reviewers' comments in italics)</i>
(BICMA 2000)	<p><b>Code of best practice on rehabilitation, early intervention and medical treatment in personal injury claims</b></p> <p>Originally included in the Second Bodily Injury Study (International Underwriters Association and Association of British Insurers, 1999). Solicitors and insurers have a duty to consider, in consultation with the claimant (or their family) and their treating physician(s), whether: (a) it is likely or possible that early intervention, medical treatment or rehabilitation would improve their present and/or long-term physical or mental well-being; (b) the claimant has any need for aids, adaptations or other assistance that may alleviate the difficulties of disability. And have a responsibility to arrange appropriate independent assessment and reports, and to consider any recommendations.</p>
(NIDMAR 2000)	<p><b>Canadian National Institute of Disability Management and Research: Code of Practice for Disability Management</b></p> <p>Provides a framework within which employers, unions, legislators, insurers and providers can work together to support return to work for workers with disabilities. Identifies best management practices and policies for sound workplace programmes in disability management. The main 'values' are:</p> <ul style="list-style-type: none"> <li>• Safe and productive employment of workers with disabilities.</li> <li>• Safe and healthy working</li> <li>• Reduced occurrence and impact of illness and injury due to work</li> <li>• Consensus among government, labour and management on the achievement of these values</li> </ul> <p>Disability management requires the coordination of health care and support services, protection of confidentiality and informed consent, return to work planning, coordination of financial resources and information, occupational health and safety, dispute resolution procedures, education of all parties. Central to the approach is to remove obstacles within the workplace, workplace programmes, policy and regulations. Lays out the responsibilities of the key participants in disability management, including a return to work coordinator / disability management professional.</p>
(Bevan & Hayday 2001)	<p><b>Costing sickness absence in the UK</b></p> <p>Review of methodology and 7 UK case studies of sickness absence costs.</p>
(UNUM 2001)	<p><b>Best practice in absence management</b> (based on findings of Bevan &amp; Hayday 2001) Key themes:</p> <ul style="list-style-type: none"> <li>• Developing a 'health at work' strategy.</li> <li>• Clear and widely understood policies and procedures for dealing with absence.</li> <li>• Sound system for collecting monitoring and reporting absence data.</li> <li>• Training line managers in handling absence. (Supported by advice from HR department who are also responsible for ensuring corporate policy and standards are met.)</li> <li>• Early identification and resolution of attendance problems via the prompt action of line management.</li> <li>• Managing access to occupational health and other support.</li> <li>• Undertaking 'stress audits' and acting on the results.</li> </ul> <p><i>(These themes need to be selected and adapted to suit individual company circumstances).</i></p>
(TUC 2002b)	<p><b>Rehabilitation and retention: what works is what matters.</b></p> <p>There is growing acceptance that greater effort is needed to retain employees who have been affected by poor health, injury, or disability, in paid employment. Employers have a key role in this, and new research reveals that it can best be achieved where they:</p> <ul style="list-style-type: none"> <li>• Make rehabilitation a policy goal</li> <li>• Invest in employee health, providing access to good occupational health facilities and workplace health initiatives</li> <li>• Respond to absence: monitoring health, keeping in touch with sick employees, responding early with referral for medical checks, being alert to disability issues, and applying practical rehabilitation measures</li> <li>• Do not make health a disciplinary matter</li> <li>• Assume in the first instance that sickness absence is due to work-related causes which should be investigated</li> <li>• Involve all levels of management in rehabilitation, including line managers, personnel/human resources (HR) managers, occupational health (OH), and senior managers</li> <li>• Work with unions and their members, being open on health and absence issues, and involving them fully in the development of relevant policies.</li> </ul> <p><i>(These principles are entirely consistent with all of the other evidence and views on sickness absent management, with the sole exception of the blanket assumption that sickness absence is due to work-related causes, which is not supported by the available evidence and is not necessarily a helpful starting point).</i></p>

<b>Authors</b>	<b>Key features</b> <i>(Additional reviewers' comments in italics)</i>
(Corden & Thornton 2002)	<p><b>Employment programmes for disabled people</b>  <i>(Evidence was obtained on six programmes using a 'case-management' approach from UK, US, Canada, Australia (two) and Austria and supplemented by the wider research literature.)</i> The wider literature provides support for holistic and individualised approaches. There is rather little evidence of the service process affecting placement outcomes, but assistance with job search appears to be effective. There is some evidence that, for some people, supported employment is more effective in terms of employment outcomes than traditional vocational rehabilitation.</p>
(Waddell et al. 2002)	<p><b>International review of back pain, incapacity for work and social security benefits</b>  In Sweden, Norway, the Netherlands and Victoria, Australia, employers have a statutory obligation to follow up absent workers and to develop a rehabilitation and return to work plan (though the timing varies between 3 weeks and 3 months sickness absence). There is little evidence on the effectiveness of such legislation or plans. Rehabilitation services include a wide range of personal support services to prevent sickness developing into disability, help recover working capacity and support re-adjustment to work. This may include a range of public services, but these are often very fragmented and uncoordinated. In most countries, the main rehabilitation services for workers who are injured or become sick are part of the social insurance system (e.g. Sweden, The Netherlands and Germany) or the workers or accident compensation system (e.g. US, Canada, Australia and New Zealand). Sweden, Germany, France and Canada all have arrangements in at least some circumstances to pay additional benefits during rehabilitation.</p>
(Spurgeon 2002)	<p><b>Review of the evidence on managing attendance at work</b>  <i>(Systematic literature review of the evidence for the core techniques in Cabinet Office 1998 above).</i></p> <ul style="list-style-type: none"> <li>• All policies are dependent on accurate and detailed monitoring of absence statistics.</li> <li>• In general, attendance management policies appear to be most effective in increasing the attendance of those with very poor attendance records.</li> <li>• There is some evidence that policies involving early contact with absent individuals can reduce the duration of absence, particularly among those with longer-term absence.</li> <li>• The use of trigger points for review is widespread but there would appear to be little useful information or agreement on the pattern of these or actions to employ.</li> <li>• There is an absence of data relating to the usefulness of return to work interviews, the content and effectiveness of management training and the feasibility of implementation of various programmes.</li> </ul> <p>As a general comment, current good practice would appear to be consensus-based rather than evidence-based: this is not necessarily inappropriate and may be adequately based on reputable anecdotal report, but it is important to be clear that a scientific evidence-base is currently lacking. <i>(The difference between attendance management and sickness absence management is unclear: common principles seem to apply).</i></p>
(James et al. 2002)	<p><b>Absence management and the issues of job retention and return to work</b>  A large proportion of working days lost through sickness absence stem from relatively long spells of absence. A proactive approach to supporting the return to work of ill and injured workers can have beneficial consequences. However, few UK organizations have comprehensive arrangements in place to handle cases of long-term absence.</p> <ul style="list-style-type: none"> <li>• In most companies, line managers have the primary responsibility for maintaining contact with absent employees and exploring whether anything can be done to facilitate their return to work.</li> <li>• Workplace adjustments: two thirds report that changes to working hours are considered as an option. Changes in job content (e.g. lighter duties) are also common. However, operational factors may limit the extent to which these are possible.</li> <li>• A few companies support faster access to medical advice and treatment. However, most rely on the National Health Service, with some comment on delays for appointments or treatment.</li> </ul> <p><i>(The authors highlight key aspects of sickness absence management, but also identify significant difficulties).</i></p>

<b>Authors</b>	<b>Key features</b> <i>(Additional reviewers' comments in italics)</i>
(James et al. 2003)	<p data-bbox="394 164 909 193"><b>Job retention and vocational rehabilitation</b></p> <p data-bbox="394 196 2042 252">Theoretical framework, evidence review and stakeholder consensus on the main processes and practices that are considered to contribute to effective rehabilitation activity on the part of the employer:</p> <ul data-bbox="394 255 2042 598" style="list-style-type: none"> <li data-bbox="394 255 2042 311">• Early and timely identification of vulnerable workers through surveillance: recruitment and selection procedures, health checks and medicals, staff appraisals, absence statistics, regular contact with absent workers, return to work interviews, and fitness for work assessments;</li> <li data-bbox="394 314 2042 370">• Provision of rehabilitation support in the form of health care, and the provision of various 'vocational services' such as functional evaluations, training, 'social support' and workplace adjustments;</li> <li data-bbox="394 373 2042 454">• Co-ordination of the rehabilitation process by the creation of systems that facilitate sufficient communication, discussion and 'joined-up' action between all potentially relevant actors: human resource staff, safety practitioners, occupational physicians and nurses, psychologists, disability advisers, equal opportunities personnel, trade union and other workplace representatives, and external medical personnel;</li> <li data-bbox="394 458 1400 486">• Involvement of worker representation to facilitate an environment of openness and trust;</li> <li data-bbox="394 489 1713 518">• Establishment of policy frameworks that clearly detail support structures, and clarify responsibilities and accountability;</li> <li data-bbox="394 521 1702 550">• Systematic action, including the provision of required training, to ensure proper implementation of policy frameworks;</li> <li data-bbox="394 553 2042 598">• Adoption of feedback/reassessment frameworks to identify (and address) any weaknesses in the content and operation of established policy frameworks.</li> </ul> <p data-bbox="394 601 2042 655"><i>(Delivery of all the elements may be difficult – especially in small and medium sized enterprises – but the <u>principles</u> can be incorporated into locally developed implementations).</i></p>
(Menz et al. 2003)	<p data-bbox="394 659 1137 687"><b>Outcomes of US community-based rehabilitation programmes</b></p> <p data-bbox="394 691 2042 863">There are &gt; 8,000 community-based rehabilitation provider organizations in the US delivering a variety of services that lead to, promote, and help sustain employment of people with disabilities. They provide various combinations of services including evaluation and assessment, counselling, benefits and case management, vocational and work skills training, job placement, transitional and gainful employment, independent skills training, supportive services, residential and housing, services to employers, and other supported services. This paper analyses a national sample of 64 organizations and 828 selected consumers to identify core practices that achieve employment outcomes. Factor analysis identified 10 primary processes that appeared to be applied consistently, though on a highly individual basis within each programme:</p> <ul data-bbox="394 866 1146 1157" style="list-style-type: none"> <li data-bbox="394 866 896 895">• Individualized and in-community supports</li> <li data-bbox="394 898 1041 927">• Vocational planning and actions to achieve employment</li> <li data-bbox="394 930 1146 959">• Training to acquire and keep job: Soft and hard job skills training</li> <li data-bbox="394 962 840 991">• Supports for community participation</li> <li data-bbox="394 994 862 1023">• Direct supports to ensure job retention</li> <li data-bbox="394 1026 728 1054">• Job training and supports</li> <li data-bbox="394 1058 918 1086">• Job acquisition or job search and placement</li> <li data-bbox="394 1090 929 1118">• Case management and supports coordination</li> <li data-bbox="394 1121 795 1150">• Supports to remain in workforce</li> <li data-bbox="394 1153 806 1182">• Intake and orientation to services</li> </ul> <p data-bbox="394 1185 2042 1240">79.6% of clients were satisfied with their programme. 83.6% were employed within 30 days of completing the programme, compared to 53.9% at programme entry. <i>(The authors claim that 'the evidence is in' on vocational rehabilitation, but this analysis does not actually provide any scientific evidence on the effectiveness of these programmes, because of the lack of any control group on what the outcomes would have been without the programmes).</i></p>

<b>Authors</b>	<b>Key features</b> <i>(Additional reviewers' comments in italics)</i>
(OECD 2003)	<p><b>Policies to promote work and income security for disabled people</b></p> <ul style="list-style-type: none"> <li>• Introduce a culture of mutual obligations;</li> <li>• Recognise the status of disability independently of the work and income situation;</li> <li>• Design individual work/benefit packages for disabled persons;</li> <li>• Promote early intervention;</li> <li>• Involve employers in the process;</li> <li>• Restructure benefit systems to remove disincentives to work;</li> <li>• Reform programme administration;</li> <li>• Improve co-ordination of transfer schemes.</li> </ul> <p><i>(This was an international comparison and analysis of governments' disability policies).</i></p>
(Curtis 2003)	<p><b>Recent changes in UK policy and legislation for employment and disability</b></p> <p>Describes the main services currently provided by government through the Personal Adviser ONE service and contracted out employment rehabilitation services. Discusses the development, implementation and impact of the Disability Discrimination Act 1995. In the first 5 years, there were more than 5,000 complaints under the DDA about discrimination at work, 68% of which concerned dismissal. Employees commonly alleged failure of the employer to make reasonable adjustments, most commonly transfer to an existing vacancy. Employers most commonly justified discrimination on the grounds of the employee's state of health or the amount of sick leave taken. More broadly, both Government and the Insurance Sector are now giving much greater attention to job retention and return to work policies. Nevertheless, there is still very little progress in the development of rehabilitation services in UK, and the employment position of disabled people has not shown much change.</p>
(Thornton et al. 2003)	<p><b>UK/US conference on pathways to work in the 21<sup>st</sup> century</b></p> <p><i>(Three background papers for an inter-government conference).</i> Neither the UK nor the US has yet found interventions that make a substantial impact on employment rates for disabled people. The main issues for policy development include:</p> <ul style="list-style-type: none"> <li>• New strategies for early identification and intervention</li> <li>• More creative, less complicated use of the tax system</li> <li>• Employer-related policy directions</li> <li>• Identifying the right policy mix</li> </ul> <p>Limited evidence on management of long-term sickness absence suggests effective practices are: keeping in touch with and consulting the absent employee; clear roles and responsibilities for co-ordination; training on procedures and how to implement them; availability of occupational health advice; and speedy medical and vocational rehabilitation. Trade Union research emphasised investigation of work-related causes of long-term sickness absence and a non-disciplinary approach.</p>
(Nordqvist et al. 2003)	<p><b>Views of laypersons on the role employers play in return to work</b></p> <p>Qualitative study of people with experience of prolonged sickness absence, who spontaneously emphasised the importance of the employer and a structured return to work programme. They argued the programme should be simple and unambiguous:</p> <ul style="list-style-type: none"> <li>• the employer contacts the absent worker soon after the onset of sickness absence</li> <li>• the supervisor informs the sick person's co-workers about the situation</li> <li>• adjustments to tasks performed by the sick worker upon return to work are considered (and co-workers are made fully aware)</li> <li>• there are clear routines for the programme and everyone knows who is responsible</li> <li>• the supervisor or line manager creates a positive emotional atmosphere</li> </ul> <p><i>(This study provides evidence that workers recognize and agree with key elements of modern principles of absence management).</i></p>

Authors	Key features <i>(Additional reviewers' comments in italics)</i>
(Shaw et al. 2003)	<p data-bbox="394 164 1525 193"><b>Employee perspectives on the role of supervisors to prevent workplace disability after injuries</b></p> <p data-bbox="394 196 2051 220">Employees believe that supervisors can play an important role in aiding workers, accessing health care services, and providing reasonable accommodation.</p> <p data-bbox="394 223 1099 247">A qualitative study of 30 employees identified 11 common themes:</p> <ul data-bbox="394 250 1093 571" style="list-style-type: none"> <li data-bbox="394 250 1093 274">• Accommodation of temporary limitations with adjusted work</li> <li data-bbox="394 277 674 301">• Good communication</li> <li data-bbox="394 304 618 328">• Responsiveness</li> <li data-bbox="394 331 786 355">• Concern with employee welfare</li> <li data-bbox="394 359 680 383">• Empathy and support</li> <li data-bbox="394 386 752 410">• Understanding and believing</li> <li data-bbox="394 413 674 437">• Fairness and respect</li> <li data-bbox="394 440 808 464">• Maintaining contact and follow-up</li> <li data-bbox="394 467 703 491">• Shared decision making</li> <li data-bbox="394 494 831 518">• Coordinating with medical providers</li> <li data-bbox="394 521 824 545">• Obtaining support from co-workers</li> </ul> <p data-bbox="394 571 1883 603"><i>(This list may be idealistic, but inter-personal aspects of occupational management appear to be as important as physical work adjustments).</i></p>
(HSE 2004)	<p data-bbox="394 606 1541 630"><b>An employers and managers guide to managing sickness and recovery of health at work - DRAFT</b></p> <p data-bbox="394 633 824 657">Document covers a wide range of areas:</p> <ul data-bbox="394 660 1256 981" style="list-style-type: none"> <li data-bbox="394 660 920 684">• Importance and understanding of the issues</li> <li data-bbox="394 687 837 711">• Legal obligations and responsibilities</li> <li data-bbox="394 715 741 738">• Managing recovery at work</li> <li data-bbox="394 742 748 766">• Recording sickness absence</li> <li data-bbox="394 769 651 793">• Keeping in contact</li> <li data-bbox="394 796 712 820">• Return to work interview</li> <li data-bbox="394 823 792 847">• Planning workplace adjustments</li> <li data-bbox="394 850 1077 874">• Making use of professional and other advice and treatment</li> <li data-bbox="394 877 936 901">• Agreeing and reviewing a return to work plan</li> <li data-bbox="394 904 875 928">• Coordinating the return to work process</li> <li data-bbox="394 932 1256 956">• Developing and implementing a sickness absence and return to work policy.</li> </ul> <p data-bbox="394 981 2051 1096"><i>(This is the first major Health and safety Executive guidance on sickness absence management. Notes that contacting sick-listed workers or helping them return to work is not a legal requirement; but rather a duty of care (though there is legislation covering protection after return to work). Importantly, there is a focus on recovery of 'health at work' and comprehensive guidance showing a mix of evidence-based and consensus-based best practice. Some features of a biopsychosocial framework are incorporated, but not fully integrated).</i></p>

Authors	Key features <i>(Additional reviewers' comments in italics)</i>
(EEF 2004)	<p data-bbox="394 164 1375 193"><b>Fit for work: the complete guide to managing sickness absence and rehabilitation</b></p> <p data-bbox="394 196 2045 308">Comprehensive guide from the Engineering Employers Federation (EEF) addressing attendance management. The approach intends to foster a climate of good attendance and a strong rehabilitation and health and safety culture. The guide is primarily concerned with getting those who are already in employment back to work or, if still at work, working more efficiently; managing both short-term and long-term sickness absence is considered. A six-step strategy is set out:</p> <ul data-bbox="394 311 1021 483" style="list-style-type: none"> <li data-bbox="394 311 887 339">• Clearly defined roles within the company</li> <li data-bbox="394 343 741 371">• Identify priorities for action</li> <li data-bbox="394 375 808 403">• Inform and involve the workforce</li> <li data-bbox="394 406 1021 435">• Establish ready access to occupational health support</li> <li data-bbox="394 438 696 467">• Focus on rehabilitation</li> <li data-bbox="394 470 831 499">• Tackle frequent short-term absence</li> </ul> <p data-bbox="394 502 2045 598">Typical rehabilitation measures: keep in touch; phased return to work; alter pattern of work, tasks/work content, workplace, pace of work, tools/equipment; training and information; mobility/transport. <i>(Rehabilitation seems to be seen largely as health care and work adaptation)</i>. Return-to-work interviews encapsulate key elements of good strategy for maximizing attendance: they encourage communication and action with shared responsibilities.</p> <p data-bbox="394 601 2045 678"><i>(Comes, understandably, from an employers perspective, dealing with legal requirements as well as the 'business case', but recognizes workers' needs and concerns. Guidance based more on experience and common sense than scientific evidence, but represents a modern approach encouraging getting all players onside. Complements HSE 2004).</i></p>

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[DDA = Disability Discrimination Act 1995; HR = human resources; NHS = National Health Service; HSE = Health and Safety Executive; OH = occupational health; OHS = occupational health services]



### Appendix 3

**Table A3.1 Characteristics of reviews of mental health conditions**

Authors	Topic	Population / setting	Clinical condition	Timing *	Outcomes	Type of review	Number of studies
<b>Severe mental illness and disorders</b>							
(Bond et al. 1997)	Supported employment	US mental health care	Severe mental illness	Not clear	Competitive employment	Systematic	7 descriptive 3 surveys 1 quasi-experimental 6 experimental
(Bond 1998)	Individual placement & support model	US mental health care	Severe mental illness	Not clear	Competitive employment	Conceptual	Referenced
(Bond et al. 2001)	Supported employment	US mental health care	Severe mental illness	Not clear	Competitive employment	Systematic	8 RCT 3 quasi-experimental
(Baronet & Gerber 1998)	Efficacy of psychiatric rehabilitation	US mental health care	Severe mental illness	Not clear	Clinical and occupational status	Systematic	63 studies - to 1996
(Schneider 1998)	Work interventions in mental health care	Community mental health care	Severe mental illness	Not clear	Employment	Conceptual	---
(Grove 1999)	Mental health and employment	Secondary mental health services	Severe mental illness	Not clear	Employment	Conceptual	---
(Ghates 2000)	Workplace accommodation as a social process	Workplace	People with disabilities	Not clear	Sustained employment	Theoretical paper	---
(Crowther et al. 2001) (Crowther et al. 2004)	Helping people with severe mental illness to obtain work: a systematic review	Clinical and occupational	Severe mental illness	Not clear	Sustained employment	Cochrane review	18 RCT
(Becker et al. 2001)	Supported employment programmes	Community mental health centres	Severe and persistent mental illness	Not clear	Competitive employment	Study	Compared 10 programmes
(Schneider et al. 2002) (Schneider et al. 2003)	Occupational interventions and outcomes in mental health	Clinical and population	Severe mental illness + learning disabilities	Not clear	Employment	Systematic search, narrative review	240 published & unpublished papers
(Thomas et al. 2002)	Job retention & mental health	Workers	All mental health problems	Early?	Job retention	Conceptual	---
<b>Common mental health problems</b>							
(Beck & Koenig 1996)	Minor depression	Community, primary care, hospital & elderly	Minor depression	Not clear	Mainly clinical	Systematic	28 studies
(Wessely & Hotopf 1999)	Functional somatic syndromes: one or many?	Health care	Functional somatic syndromes	All stages	Mainly clinical	Conceptual	---
(Barsky & Borus 1999)	Functional somatic syndromes: a review	Health care	Functional somatic syndromes	All stages	Mainly clinical	Systematic search Narrative review	---
(Arthur 2000)	Employee Assistance Programmes	Occupational health	Stress and distress	Early?	Better coping	Narrative	---

Authors	Topic	Population / setting	Clinical condition	Timing *	Outcomes	Type of review	Number of studies
(Cameron & Heidel 2000)	Behavioural risk management	Occupational	Employees with behavioural problems	Early	Occupational behaviour	Narrative	21 case examples
(Cox et al. 2000)	Work-related stress	Societal	Stress	Early?	Clinical / occupational	Narrative	---
(Boardman 2001)	The importance of work	Societal	Mental illness	Not clear	Employment	Conceptual	---
(Whiting et al. 2001)	Interventions for chronic fatigue syndrome	Clinical	Chronic fatigue syndrome	Variable	Multiple (clinical)	Systematic	36 RCT; 8 CT
(Olsheski et al. 2002)	Integration of disability management and psychosocial rehabilitation	Occupational health	Psychological / mental health problems	All stages	Employability	Conceptual	---
(Page & Wessely 2003)	Medically unexplained symptoms	Doctor – patient encounter	Common presenting symptoms	Early?	Clinical iatrogenesis	Narrative	---
(Fischhoff & Wessely 2003)	Managing patients with inexplicable health problems	Clinical	Common presenting symptoms	All stages	Patient and doctor satisfaction	Narrative	---
(Burton 2003)	Medically unexplained physical symptoms	Primary care	Common presenting symptoms	All stages	Clinical management	Systematic search Narrative review	---
(Huibers et al. 2003)	Psychosocial interventions delivered by GPs	Primary care	Psychosocial problems	All stages	Clinical	Cochrane review	8 RCT

[CT = controlled trial; GP = General Practitioner; NHS = National Health Service; RCT = randomised controlled trial].

\* *Timing of intervention is unclear in most of the reviews in this table. From the papers by Bond et al, it appears that return to work is generally about 3-4 months after agreement that vocational goals are realistic. In patients with severe mental illness and severe mental disorders, this goal is presumably only identified and agreed at a chronic stage once the condition is stabilised, i.e. corresponding to a stage of long-term incapacity.*

[Note: Table A3.2 includes summaries of various guidance documents that do not fit conveniently into Table A3.1]

**Table A3.2 Main findings from reviews of mental health conditions**

<b>Authors</b>	<b>Authors' conclusions</b> <i>(Additional reviewers' comments in italics)</i>
<b>Severe mental illness and disorders</b>	
(Bond et al. 1997) (Bond 1998) (Bond et al. 2001)	<p><b>Supported employment using the individual placement &amp; support model: an evidence based practice</b>  <i>(These three reviews by the same group are presented together as they are progressive updates of the same material.)</i> The Individual Placement and Support (IPS) model of supported employment for people with severe mental illness was developed in US in the 1980s. There is strong evidence that IPS is effective: with a mean of 58% of IPS clients achieving competitive employment compared with 21% of those receiving traditional vocational services. There is no evidence that supported employment leads to psychiatric deterioration and some evidence that it improves general mental health. There is no evidence on the relative contribution or minimum effective package of the 6 core elements. It is not possible to predict which clients will have better occupational outcomes from IPS. More evidence is needed on long-term outcomes and on cost-effectiveness. <i>(Reviews the evidence that extended pre-employment training, preparation and counselling of clients with severe mental illness is ineffective for achieving competitive employment.)</i></p>
(Baronet & Gerber 1998)	<p><b>Efficacy of psychiatric rehabilitation – evidence on four models</b>            Definition: a psychiatric rehabilitation programme is one whose primary focus is on improving clients' skills in order to minimise the impact of the psychiatric illness on their functional capacity.            22 studies on the Assertive Community Treatment Model showed positive effects on symptoms and health care use, but did not improve global functioning and had mixed effects on quality of life. Only 4 studies had occupational outcomes, with conflicting results.            25 studies of Case Management improved social and global functioning with mixed effects on quality of life. Case management programmes that emphasised use of vocational services had a positive impact on occupational status.            11 studies of Supported Employment produced positive effects on the ability to gain employment and on sustained employment over time. However, there was patient selection for entry to these programmes, including clinical stability and willingness to participate in vocational training and seeking employment.            5 studies of Educational Rehabilitation were, overall, associated with improved educational status which was generally followed by improved occupational status. Again, however, there was probably some selection of a higher functioning sub-group of patients.</p>
(Schneider 1998)	<p><b>Work interventions in mental health care</b>            Argues for a reconsideration of the role of work in psychiatric treatment and rehabilitation. Offers a number of perspectives on why psychiatry should place greater emphasis on work:</p>

Authors	Authors' conclusions <i>(Additional reviewers' comments in italics)</i>
(Grove 1999)	<p><b>Mental health and employment</b>            (Based on (Posner et al. 1996)). Argues the case that employment should be given high priority as a realistic and legitimate aim of secondary mental health services for patients with severe mental illness. Summarises a consensus view on the principles underpinning service provision and suggests these should be viewed through the conceptual framework of the social model of disability. Services should be:</p> <ul style="list-style-type: none"> <li>• Needs-based – designed and operated around the clearly identified needs of individuals with mental health problems rather than programme-led or funding-led</li> <li>• Accessible – to all groups in the community, particularly those who are commonly under-represented (e.g. people from minority ethnic backgrounds or those with childcare responsibilities)</li> <li>• Orientated to the local 'market' reflecting the characteristics of the local economy and labour market</li> <li>• User-driven – meeting each user's unique requirements and giving them as much control as possible over the timing, pace and intensity of the services they receive</li> <li>• Offering choice – in terms of programmes, settings skill areas and levels</li> <li>• Providing support for individuals to find and keep jobs and/or to participate in education and training programmes</li> <li>• Offering security in a safe and supportive environment</li> <li>• Offering continuity and availability on a long-term basis and permitting re-access after a period of illness</li> <li>• Allowing progression to employment or education if users so wish</li> <li>• Flexibility in moving towards a wide range of possible outcomes</li> <li>• Empowering users, building upon the strengths and abilities of users and involving them directly in service planning, operation and evaluation</li> <li>• Promoting integration in ordinary community settings which are socially valued and supporting the usage of community facilities and the development of wider relationships</li> <li>• Directed towards an ordinary working life – ordinary jobs and mainstream training opportunities</li> <li>• Quality driven and producing outcomes that are valued by consumers</li> <li>• Cost-effective – meeting needs effectively and efficiently</li> </ul> <p>Also pointed out that it is important for employment support services 'to think about employers in a more constructive way, not as part of the problem to be 'educated' or coerced into non-discriminatory attitudes. Rather as part of the solution – as potential partners in a reciprocal, negotiated arrangement that will help prevent wastage of lives (and resources) through mental ill-health.'</p>
Ghates 2000	<p><b>Workplace accommodation as a social process</b>            The main benefit of Employee Assistance Programmes, specifically in relation to job retention, is that they provide a source of early intervention for people with mental health problems while they are still working, that is, before they are lost in a downward spiral of time off work, decreasing mental health and potential job loss. Highlights the importance of social support and four roles for a job retention worker: 1) A <i>source of information</i> to the workplace about the nature of mental health problems, the functional effects of symptoms and medication, and (in-)capacity; 2) An <i>interpreter</i> of workplace policies and procedures to workers with mental health problems; 3) A <i>negotiator</i> helping to secure adjustments that meet the needs of both the worker with mental health problems and the demands of the employer; 4) A <i>trainer</i> to supervisors and relevant others in the organisation on how to accommodate people with mental health problems so that they have the skills to manage such issues.</p>
(Crowther et al. 2001) (Crowther et al. 2004)	<p><b>Helping people with severe mental illness to obtain work</b>            The main finding was that on the primary outcome (number in competitive employment) Supported Employment was significantly more effective than Pre-vocational Training; for example, at 18 months 34% of people in Supported Employment were employed versus 12% in Pre-vocational Training (RR random effects (unemployment) 0.76 95% CI 0.64 to 0.89, NNT 4.5). Clients in Supported Employment also earned more and worked more hours per month than those in Pre-vocational Training. There was no evidence that Pre-vocational Training was more effective in helping clients to obtain competitive employment than standard community care.</p>
(Becker et al. 2001)	<p><b>Fidelity of supported employment programs</b>            Higher competitive employment rates were strongly correlated with overall programme fidelity and with two programme components: 1) Providing services in the community, as opposed to providing them in the clinic; 2) Using full-time employment specialists as opposed to staff with mixed roles</p>

Authors	Authors' conclusions <i>(Additional reviewers' comments in italics)</i>
(Schneider et al. 2002) (Schneider et al. 2003)	<p><b>Occupational interventions and outcomes in mental health</b></p> <p>Authors were optimistic that: 'Social inclusion through employment is a more realistic prospect for people with (severe) mental health problems than ever before. There are six reasons why this is so in the UK today. Firstly, as always, there is a steady demand for paid work on the part of people with mental health problems. Secondly, there is broad legislative provision to protect the right to work of all disabled people. Thirdly, there are policy guidelines, with the ultimate objective of increasing social inclusion, that highlight the importance of employment. Fourthly, the benefits system is becoming progressively more flexible in relation to some forms of employment. Fifthly, there is a growing body of practice knowledge about how to help people with mental health problems achieve employment. And, finally, there is some sound evidence of the effectiveness of occupational interventions.'</p> <p>Conclusions: People are more likely to get jobs and keep them if they are not impeded by poor social skills and negative symptomatology, but also if they: have worked before; have positive attitudes towards work; are placed as soon as possible in a job of their choice; receive preparation targeted at work rather than general training; receive ongoing support in their job; actively participate in an occupational intervention; and are not worse off as a result of working. Vocational services seem to be more effective at getting people into work when integrated with mental health teams. The Individual Placement and Support model of supported employment has strong evidence in its favour, though it may not suit everyone at all times.</p>
(Thomas et al. 2002)	<p><b>Job retention &amp; mental health</b></p> <p>The external obstacles to (return to) work for unemployed people with mental health problems include:</p> <ul style="list-style-type: none"> <li>• Stigmatisation of mental illness within society, including in particular employers. There is a perception that people with (a history of) mental health problems may be less productive, have more sickness absence, and be less likely to remain in sustained employment.</li> <li>• Disclosure and fear of discrimination</li> <li>• The Disability Discrimination Act (1995) requires the employer to make <i>reasonable adjustments</i> (termed <i>accommodations</i> in the US) but these may be less obvious and less readily available for people with mental health problems (e.g. additional support, modified psychosocial aspects of work, or some kind of flexible scheduling) than for those with physical disabilities (e.g. modified physical demands and work environment)</li> <li>• Lack of support services in the workplace</li> <li>• Negative attitudes and low expectations of mental health providers. Attitudes and practices in UK mental health services that do not consider or support (return to) work as a realistic option for people with mental health problems or the concern of health care.</li> </ul> <p>Job retention models and services for people with mental health problems (<i>which may be equally applicable to rehabilitation and return to work</i>) include: employee assistance programmes; the social process model; and a case management approach. (Return to) work and job sustainability for people with mental health problems may be promoted by comprehensive mental health services, organisational factors and a better person-environment fit. The main principles include:</p> <ul style="list-style-type: none"> <li>• Promoting positive and realistic perspectives on mental illness and employment among people with mental health problems.</li> <li>• Considering the individual's job preferences and job satisfaction.</li> <li>• Promoting healthy workplaces for all employees.</li> <li>• Facilitating natural supports in the workplace.</li> <li>• Providing supportive and well-trained management/supervision.</li> <li>• Promoting modified work programmes and facilitating workplace adjustments.</li> <li>• Facilitating early intervention and minimal time off work programmes.</li> </ul>
<b>Common mental health problems</b>	
(Beck & Koenig 1996)	<p><b>Minor depression</b></p> <p>There are considerable problems to diagnosis, as minor depression is often associated with physical illness or functional somatic symptoms, and presents in a medical rather than a psychiatric context. There are very conflicting data on the prevalence of minor depression (lifetime prevalence from 9% to 26% for males and 72% for females). Little is known of the natural history: many probably recover relatively quickly, but some may be the residue of major depression, and some may subsequently develop major depression. People with minor depression (<i>even minor depressive symptomatology on a psychometric scale rather than clinically diagnosed illness</i>) have more sickness absence but there is limited evidence on how much.</p> <p>There is very limited evidence on the management of minor depression. It is suggested that treatment should be conservative, such as relatively frequent office visits for support or problem solving. A few studies suggest that medication has marginal effect on clinical outcomes. (<i>The authors did not report anything on vocational rehabilitation or outcomes.</i>)</p>

<b>Authors</b>	<b>Authors' conclusions</b> <i>(Additional reviewers' comments in italics)</i>
(Wessely & Hotopf 1999)	<p><b>Functional somatic syndromes: one or many?</b></p> <p>The review concludes that there is a substantial overlap between functional somatic symptoms and syndromes (irritable bowel syndrome, premenstrual syndrome, fibromyalgia, atypical chest pain, hyperventilation syndrome, tension headache, etc.) and the similarities outweigh the differences. Similarities are apparent in case definition, reported symptoms, co-morbidities, associated psychological features and socio-demographics.</p> <p>If functional somatic symptoms are considered as a whole, that opens the way to more general strategies and services for their management. Conventional medical treatment is fairly ineffective. The authors suggest that management should remain within mainstream clinical medicine rather than be transferred to psychiatry, but that there is a need for the return of a 'general physician' with a broad-based approach, perhaps aided by liaison with psychiatrists or psychologists. <i>(No more specific details of management are considered for rehabilitation or vocational outcomes).</i></p>
(Barsky & Borus 1999)	<p><b>Functional somatic syndromes: a review</b></p> <p>Syndromes characterised more by symptoms, suffering and disability than by consistently demonstrated tissue abnormality. Symptoms are often refractory to reassurance, explanation and standard symptomatic treatment. The authors propose a six-step clinical management strategy based on a comprehensive biopsychosocial approach:</p> <ol style="list-style-type: none"> <li>1. Ruling out the presence of diagnosable medical disease</li> <li>2. Searching for psychiatric disorders</li> <li>3. Building a collaborative alliance with the patient</li> <li>4. Making restoration of function the goal of treatment</li> <li>5. Providing limited reassurance</li> <li>6. Prescribing cognitive-behavioural therapy for patients who have not responded to the first five steps.</li> </ol> <p><i>(Apart from general comments about the goal of restoring function, this review does not give any further consideration to practical details of how this might be achieved, rehabilitation, or vocational outcomes.)</i></p>
(Arthur 2000)	<p><b>Employee assistance programmes</b></p> <p>Employee assistance programmes (EAPs) are a relatively new type of counselling provided by employers, both private and public, that allow psychologically distressed employees, and sometimes their dependants, free and confidential access to qualified mental health professionals. The common group of core components includes free, confidential access to a contracted, affiliate network of mental health practitioners who provide assessment, counselling and therapeutic services for employees experiencing a wide range of personal, emotional and psychological problems, with a telephone help-line for information and advice on domestic, legal, medical and financial matters.</p> <p><i>(This critical review concludes that:)</i> Evidence on effectiveness is 'embarrassingly thin, largely anecdotal and mainly American' and that there is a lack of firm and substantial research. Furthermore, 'stress management interventions are based on inadequate and over-simplistic theories which obscure many conflicting interests of employees, employers and researchers, and ignore empirical evidence which suggests that individual well-being, attitudes to work and work behaviour are minimally linked'. Nevertheless, the review concludes that:</p> <ul style="list-style-type: none"> <li>• EAPs, and to a lesser extent stress management techniques, have a role to play in supporting employees who experience or may experience symptoms of psychological distress.</li> <li>• They are not in themselves effective enough to counter the effects of stressful work environments</li> <li>• Providing them for cost saving and improved productivity reasons alone may result in disappointment.</li> </ul>
(Cameron & Heidel 2000)	<p><b>Behavioural risk management</b></p> <p>Focuses on employees with behavioural problems at work and the role of occupational health nursing and occupational psychiatry. Suggests that proactive intervention, an effective team approach, and input from management can produce positive outcomes for both the employee and employer. Identifies a number of warning signs: absenteeism, lateness, requests for leave; undocumented medical restrictions, discrepancy between what employee states and what doctor writes; complaints of stress; numerous 'accidents'; customer complaints, threatening comments or unpredictable behaviour</p> <p>Suggests that intervention should include: evaluation of function; shared decision making; an Employee Assistance Programme; training; risk assessment; behavioural coaching. <i>(Presents 21 case examples but no scientific evidence on effectiveness.)</i></p>

<b>Authors</b>	<b>Authors' conclusions</b> <i>(Additional reviewers' comments in italics)</i>
(Cox et al. 2000)	<p><b>Work-related stress</b></p> <p>Three common types of intervention on stress management are found in the literature: Primary (some form of organisational or work development to reduce stressors, including work design and ergonomics); Secondary (worker training, either in form of health promotion or psychological skills); Tertiary (employee assistance, focused on provision of counselling). The relative effectiveness of such programmes has been difficult to determine (largely for methodological reasons). The scientific literature suggests that organisational-level interventions (or at least, intervention programmes that target the organisation as well as the individual employees) may be the most beneficial for both individuals and organisations. The available evidence suggests that, although few in number, organisational-level interventions that aim to eliminate or control the hazards within the work environment have significant advantages and represent the best way forward.</p>
(Boardman 2001)	<p><b>The importance of work</b></p> <p>Lays out the argument for the importance of work in mental health care: costs of mental illness and unemployment; social and health benefits of work; demand from service users; the ideological argument (work as a rights issue); the economic argument and national policy. Considers barriers to employment for people with mental illness, including the perceptions of individuals themselves, health professionals and employers, and stigmatisation. Distinguishes mental illness and disability and lays out the argument for the social model. Reviews work schemes for people with mental illness and identifies several critical components for success:</p> <ul style="list-style-type: none"> <li>• The agency providing supported employment is committed to competitive employment as an attainable goal for people with mental illness</li> <li>• Supported employment programmes use a rapid job search approach to helping clients (rather than providing lengthy pre-employment assessment, training and counselling)</li> <li>• Staff and clients find individual job placements according to client preferences, strengths and work experiences</li> <li>• Follow-up supports are maintained indefinitely</li> <li>• Supported employment programmes are closely integrated with mental health teams.</li> </ul> <p><i>(The conceptual part of this paper attempts to address all mental illness (including common mental health problems) but the evidence and the proposed interventions are mainly about severe psychiatric illness and no consideration is given to whether or how this might apply to common mental health problems.)</i></p>
(Whiting et al. 2001)	<p><b>Interventions for treatment and management of chronic fatigue syndrome</b></p> <p>Across the studies, 38 different outcomes were evaluated using about 130 different scales or types of measurement. Studies were grouped into 6 different categories: behavioural, immunological, pharmacological, supplements, complementary, other. The interventions demonstrated mixed results in terms of effectiveness. Interventions that have shown promising results include cognitive behavioural therapy and graded exercise therapy, with limited effects from immunoglobulin and hydrocortisone. <i>(No data on occupational outcomes)</i></p>

Authors	Authors' conclusions <i>(Additional reviewers' comments in italics)</i>
(Olsheski et al. 2002)	<p><b>Integration of disability management and psychosocial rehabilitation</b>  <i>(This is the only review of mental health problems that considers exactly the issues addressed in the present paper.)</i></p> <p>Disability management has been successful in accommodating physical disabilities in the workplace, but not for psychological / mental health related disabilities. Suggests that integration of the principles and strategies of psychosocial rehabilitation into disability management programmes should help to protect these individuals' employability and control sickness absence costs. Suggested principles include:</p> <ul style="list-style-type: none"> <li>• Joint employee-management steering committee for programme development, implementation and operation.</li> <li>• Job analysis: functional limitations due to mental health problems are different from physical disabilities. Adjustments are less tangible and harder to plan and implement. Individual mental functional capacities need to be linked to work performance, e.g. understanding and memory, concentration, social interaction and adaptation.</li> <li>• Supervisors need to be educated about the individual's strengths, limitations and the nature of adjustments required.</li> <li>• Transitional return to work programmes: but the goal of such transitional programmes is to return to the original job.</li> <li>• Supported employment: however, due to the stigma attached to mental illness, job coaching functions may have to be more discrete and subtle to protect confidentiality.</li> <li>• Suitable mental health professionals could evaluate the worker's functional limitations from their mental health problem, analyse the mental and psychological requirements of the job, recommend specific job adjustments, and monitor the worker's progress.</li> <li>• Staff development and training: developing understanding of their role in supporting a 'return to work / stay at work' philosophy.</li> <li>• Case management, communication, and coordination.</li> <li>• Employers can create an organisational climate that allows for the integration of psychosocial rehabilitation into the return to work process.</li> </ul> <p>In conclusion, although psychosocial rehabilitation interventions have been used primarily for severe mental health conditions, many of the principles and services could be integrated into disability management programmes to assist workers with common mental health problems.</p>
(Page & Wessely 2003)	<p><b>Medically unexplained symptoms</b></p> <p>Defines medically unexplained symptoms as physical symptoms that are disproportionate to identifiable physical disease and suggests this term should replace 'somatisation'. Medically unexplained symptoms are common in primary and secondary care, while those patients with the highest number of symptoms are likely to fulfil psychiatric criteria for 'somatisation disorder'.</p> <p>The authors suggest that these symptoms are aggravated and perpetuated by adverse effects of medical interventions at various stages of the doctor-patient encounter, and suggest principles of management to avoid this.</p> <ul style="list-style-type: none"> <li>• Careful assessment at the first assessment (including an exhaustive list of symptoms), probing for life stresses, and physical examination</li> <li>• Avoiding excessive investigation and over-interpretation</li> <li>• Reassurance is particularly important, using empowering explanations that make patients feel they have some influence over their symptoms</li> <li>• Careful information and advice, avoiding labelling and avoiding the creation of illness behaviour or iatrogenic disability</li> <li>• Avoiding over-treatment, particularly with invasive treatments or those likely to produce side-effects or complications</li> <li>• 'Broad based rehabilitation strategies are currently the most successful management approaches'</li> </ul>
(Fischhoff & Wessely 2003)	<p><b>Managing patients with inexplicable health problems</b></p> <p>People need to rationalise their health problems and those with medical mysteries will find some explanation. The best way to manage such patients is unclear, but the authors suggest principles of management that should help to improve the satisfaction of both patients and doctors. <i>(This review does not consider associated disability, sickness absence, rehabilitation or vocational outcomes.)</i></p>
(Burton 2003)	<p><b>Medically unexplained physical symptoms</b></p> <p>Symptoms for which no physical pathology can be found. There is substantial overlap between different symptoms and syndromes, suggesting they have much in common. Patients with such symptoms may best be viewed as having complex adaptive systems in which cognitive and physiological processes interact with each other and with their environment.</p> <p>Cognitive behavioural therapy and anti-depressant drugs are both effective treatments, but their effects may be greatest when the patient feels empowered by their doctor to tackle their problem. The GP's role is to validate the patient's experience, provide positive 'empowering explanations' of symptoms, and to use proven treatments such as anti-depressants and cognitive behavioural therapy to modify the process.</p> <p><i>(This review focused entirely on clinical management and outcomes, and did not consider rehabilitation or occupational outcomes.)</i></p>



<b>Authors</b>	<b>Authors' conclusions</b> <i>(Additional reviewers' comments in italics)</i>
(Huibers et al. 2003)	<p><b>Effectiveness of psychosocial interventions delivered by general practitioners (Cochrane review).</b></p> <p>There is good evidence that problem-solving treatment by GPs is effective for major depression. The evidence concerning other interventions (retribution or cognitive behavioural group therapy for somatisation, etc) for other health complaints is either limited or conflicting.</p> <p><i>(This review focused entirely on clinical outcomes, and did not consider rehabilitation or occupational outcomes)</i></p>
<b>Guidance</b>	
(DH 1999)	<p><b>National Service Framework for mental health</b></p> <p>This UK government (NHS) initiative addresses the mental health needs of working age adults, spells out national standards for mental health in 5 areas: 1) mental health promotion; 2) primary care and access to services; 3) effective services for people with severe mental illness; 4) individuals who care for people with mental health problems; and 5) action necessary to achieve the target to reduce suicides.</p>
(Manning & White 1995)	<p><b>The attitudes of employers to the mentally ill</b></p> <p>Patients often ask psychiatrists for advice about how to answer questions about their health, when seeking employment. They fear not being employed if they declare that they have suffered from a mental illness. This study measured the attitudes of personnel directors of 200 randomly chosen public limited companies. This confirmed significant reluctance, stigma and ignorance about employing and believing the mentally ill. Employers decided whether to employ someone by considering the job description, the standard of previous work, whether he/she was receiving treatment, previous time off-sick, and the particular illness suffered. Those with depression were more likely to be employed than those with schizophrenia or alcoholism. The largest companies were significantly more likely to employ patients and were less likely to seek dismissal than the smallest. Employers would welcome more information about mental ill-health. Potential employees should approach large firms and seek treatment.</p>
(DH 2002)	<p><b>Guidance on mental health and employment in the NHS</b></p> <p>People with mental health problems frequently suffer discrimination in the workplace. This guidance provides advice to NHS employers on the retention and future employment of people who have experienced or are experiencing mental health problems:</p> <ul style="list-style-type: none"> <li>• NHS employers should ensure their policies and procedures comply with the Disability Discrimination Act 1995;</li> <li>• No person should be refused employment, or have their employment terminated on mental health grounds without the NHS employer first having made any adjustments that it would be reasonable to make in relation to that person in accordance with any duty placed upon them by the DDA;</li> <li>• All NHS staff need help to develop an awareness of their own mental health, when to seek help and from whom;</li> <li>• The NHS needs to develop a culture where staff can be open about their mental health status, are treated fairly and are encouraged to seek help when it is needed;</li> </ul> <p>The over arching message to be taken from this guidance is that it is extremely unjust, a waste of human potential, a great cost to society, and potentially unlawful to exclude anyone from employment simply because that person has experienced or experiences mental health problems.</p>
(Mental Health Foundation 2002)	<p><b>A survey of the experiences of people with mental health problems within the workplace</b></p> <p>Key findings:</p> <ul style="list-style-type: none"> <li>• Over half believe that they had definitely or possibly been turned down for a job in the past because of their mental health problems.</li> <li>• Only one third feel confident in disclosing their experience of mental health problems on job application forms.</li> <li>• Of those who had been open about their mental health problems in the workplace, over half always or often had support when they needed it, with another one in five sometimes getting support. Around two-thirds reported that people at work were always or often very accepting.</li> <li>• However, around one in four people reported that too much account was sometimes taken of their mental health problems, saying that they always, often or sometimes felt patronised or more monitored than other colleagues.</li> <li>• More than 15% believed that they had been passed over for promotion because of their mental health problem.</li> <li>• One in ten always or often believed that colleagues made snide or sarcastic remarks or that colleagues avoided them because of their mental health problem.</li> <li>• One in three believed that bullying at work had caused or added to their mental health problems.</li> <li>• Nearly two out of three respondents believed that unrealistic workload/too high expectations/long hours had caused or exacerbated their mental health problems.</li> </ul>

Authors	Authors' conclusions <i>(Additional reviewers' comments in italics)</i>
(Royal College of Psychiatrists 2002)	<p data-bbox="367 165 996 194"><b>Employment opportunities and psychiatric disability</b></p> <p data-bbox="367 199 510 228">Key findings:</p> <ul data-bbox="367 233 2045 1007" style="list-style-type: none"> <li>• Work plays a central role in people's lives and is a key factor in social inclusion.</li> <li>• Work is important in maintaining and promoting mental and physical health and social functioning. Being in work creates a virtuous circle; being out of work creates a vicious circle.</li> <li>• Work is important in promoting the recovery of those who have experienced mental health problems.</li> <li>• Barriers to work for people with severe mental illness include structural factors, stigma and prejudice, attitudes and approaches of the mental health services and the lack of well-run employment schemes.</li> <li>• Partnerships and interagency working are crucial to developing employment services for people with psychiatric disabilities.</li> <li>• Key factors for putting partnerships into practice include: developing a user focus, finding partners, communication, oiling the wheels, commitment from the top, addressing boundary problems, achieving a professional approach, being tuned in, understanding the local business scene, and evaluation of schemes.</li> <li>• General practitioners (GP), through their clinical management and provision of advice on fitness to work, are in a key position to influence and sometimes determine a patient's trajectory through the employment system.</li> <li>• The longer that a person is off work for illness reasons, the less chance he or she has of returning to work.</li> <li>• It is likely that a rapid response and assistance into rehabilitation can help the return to work.</li> <li>• Attitudes of mental health services and lack of effective schemes act as barriers to getting people with psychiatric disabilities into work.</li> <li>• Community mental health teams (CHMTs) and specialist rehabilitation services are the main components of the mental health services that have a role to play in assisting users into work and supporting them there.</li> <li>• Mental health services currently place insufficient emphasis on returning people to work and there is no specific provision for work schemes or work liaison schemes in CMHTs.</li> <li>• CMHTs are ideally placed to take the lead in coordinating the vocational rehabilitation of those with psychiatric disabilities, but they presently lack sufficient expertise in welfare advice and vocational work. Specialist vocational workers are required in CMHTs. Since March 2002 the Care Programme Approach has had to include plans to 'secure suitable employment or other occupational activity'.</li> <li>• Vocational services must be supported by other suitable, quality mental health services to improve the functioning of those with mental illnesses and to offer a spectrum of in-patient, day patient and other community services.</li> <li>• Maintaining people in work is important, and close liaison between employers and CMHTs plays a key role in achieving good employment outcomes.</li> <li>• Communication and liaison between GPs, mental health professionals and occupational health staff is an essential part of keeping people with psychiatric disabilities in work or getting them back to work.</li> </ul> <p data-bbox="367 1011 674 1040">General practitioners should:</p> <ul data-bbox="367 1045 1697 1209" style="list-style-type: none"> <li>• always consider how clinical management would support a patient back into work;</li> <li>• review the patient before the first 6 weeks of certified incapacity, to reduce the chances of long-term sickness;</li> <li>• try to keep positive expectations about patients' return to work;</li> <li>• emphasise progress and offer appropriate therapy where possible;</li> <li>• differentiate between the risk of losing an existing job and the problems of getting back into work after a long absence;</li> <li>• communicate as clearly as possible with the employer within the constraints of ethics and confidentiality.</li> </ul>

Authors	Authors' conclusions <i>(Additional reviewers' comments in italics)</i>
(Mindout 2002) (Mindout 2003)	<p><b>Working minds toolkit: a practical resource to promote good workplace practice on mental health</b></p> <p><b>Line manager's resource: a practical guide to managing &amp; supporting mental health in the workplace</b></p> <p>Linked to the UK 'mindOut for mental health', which was an active campaign to stop the stigma and discrimination surrounding mental health and works with employers to raise awareness around mental health and to change attitudes in the workplace.</p> <p>Working minds toolkit is a substantial resource about developing practice and policies, aiming to help create positive shifts in workplace attitudes and behaviour. Contains material useful for anyone interested in addressing mental health issues in the workplace. An overview of the issues and presentation of the business case is followed by sections people, practice and the law, facts about the issues, and a listing of resources; a feedback form. Designed as a flexible, stimulating resource for professionals and managers</p> <p>Line managers' toolkit is written for managers – particularly those in small and medium-sized organisations. It offers practical advice on managing and supporting people who are experiencing stress, distress and mental health problems. The aim is to directly address fear, ignorance and stigma around engaging with the individual. The key message is the importance of talking openly and with trust:</p> <ul style="list-style-type: none"> <li>• Match the job requirements with the person's capabilities</li> <li>• Talk at an early stage of distress to prevent the problem escalating</li> <li>• Keep in touch during sickness absence to offer support and plan for the return to work</li> <li>• Achieve a successful return to work</li> <li>• Manage a long-term illness whilst remaining at work</li> <li>• Access sources of support and information</li> </ul> <p>In addition to employers' guidance, advice for employees is also included.</p>
(Thomson et al. 2003)	<p><b>Guidance on best practice in rehabilitating employees following absence due to work-related stress</b></p> <p><i>(Prepared by The Institute for Employment Studies for HSE: examples of UK best practice used a wide range of strategies and techniques although with no hard data on outcomes.)</i></p> <p>Summary of elements of best current practice:</p> <ul style="list-style-type: none"> <li>• Early contact with the employee</li> <li>• Early health assessment</li> <li>• Quality of the health assessment</li> <li>• Developing an agreed rehabilitation plan</li> <li>• Therapeutic interventions: Current evidence suggests that approaches based on cognitive behavioural therapy are most effective in relation to work-related stress. However, the evidence also shows that other forms of therapy, such as counselling and psychotherapy, are more effective than no intervention.</li> <li>• Flexible return to work interventions</li> <li>• Work adaptations and adjustments</li> </ul> <p>Elements of best practice in company policy include: written policy or guidelines; monitoring sickness absence; case management; stress and rehabilitation awareness in line managers.</p>
(van der Klink & van Dijk 2003)	<p><b>Dutch practice guidelines for managing stress-related disorders in occupational and primary health care.</b></p> <p>A meta-analysis concluded that cognitive behavioural and multi-modal (cognitive behavioural interventions combined with relaxation techniques) were most effective. However, there are no randomised controlled trials with occupational outcomes. Nevertheless, there are sound arguments that therapy needs to be supportive, active, flexible, goal-directed, and time-limited. Therapy uses encouragement, supports the patient's strengths, and minimises or plays down past problems. Education and information play an important role. Therapy and guidance concentrate on helping patients to regain control and rebuild their social and occupational contacts and activities. <i>(Original occupational and primary care guidelines for stress-related disorders in Dutch.)</i></p>

[DDA = Disability Discrimination Act 1995; NNT = number needed to treat; RR = relative risk].

[Note: Table A3.2 includes summaries of various guidance documents that do not fit conveniently into Table A3.1]

**Table A3.3 Characteristics of reviews of low back pain**

Authors	Topic	Population / setting	Clinical condition	Timing	Outcomes	Type of review	Number of studies
(Di Fabio 1995)	Comprehensive rehabilitation programmes	Clinical patients	Low back pain	Mixed	Largely clinical	Meta-analysis	19 RCT
(Teasell & Harth 1996)	Functional restoration	Workers compensation?	Low back pain	Chronic	Return to work	Narrative	4 studies
(Frank et al. 1996a; Frank et al. 1996b; Frank et al. 1998)	Secondary prevention of disability from occupational LBP.	Not defined	Low back pain	Acute: 0 to 3-4 weeks Sub-acute: 3-4 to 12 weeks Chronic: > 12 weeks	Occupational disability	Narrative	---
(Scheer et al. 1997)	Occupational outcomes of clinical treatments	Not defined	Industrial LBP	Sub-acute: 4-12 weeks Chronic: > 12 weeks	Occupational	Systematic	12 RCT (to 1993 only)
(Karjalainen et al. 2000)	Multidisciplinary rehabilitation	Working age adults	Low back pain	Sub-acute 4-12 weeks sickness absence		Systematic	2 RCT
(van Tulder et al. 2000)	Behavioural treatment	Clinical patients	Low back pain	Chronic (> 3 months)	Mainly clinical	Cochrane review	20 RCT
(Abenhaim et al. 2000)	The role of activity in the therapeutic management of LBP	Clinical	Low back pain	Acute, sub-acute & chronic	Mainly clinical	Systematic	47 articles (to July 1997)
(Elders et al. 2000)	Return to work interventions.	Health care and Occupational	Back disorders	Acute and sub-acute	Return to work	Systematic	9 RCT 3 prospective cohort studies
(Waddell & Burton 2000; Carter & Birrell 2000)	UK Occupational Health Guidelines	Occupational health management	Low back pain	4--12 weeks	Return to work Prevention of long-term incapacity	Systematic + Clinical guideline	34 systematic reviews. 28 narrative reviews
(Guzmán et al. 2001)	Multidisciplinary rehabilitation	Health care and Occupational	Adults with disabling LBP	Chronic > 3 months	Pain, function and vocational outcomes	Systematic	10 RCT (to June 2001)
(Staal et al. 2002)	Return to work interventions.	Health care and Occupational	Low back pain	<2 to >8 weeks	Return to work	Systematic	14 RCT
(van Tulder & Koes 2002)	Conservative treatments	Clinical	LBP & sciatica	Chronic > 12 weeks	Functional status	Systematic	All systematic reviews and RCT (to June 2002)
(Schonstein et al. 2003)	Physical conditioning programmes	Workers	Low back pain	Still working or variable duration of sick leave	Time lost from work	Cochrane review	19 RCT
(Staal et al. 2003)	International comparison of occupational health guidelines	Occupational health care	LBP and sickness absence	Acute & sub-acute up to 3 months	Occupational outcomes	Systematic	6 occupational health guidelines

<b>Authors</b>	<b>Topic</b>	<b>Population / setting</b>	<b>Clinical condition</b>	<b>Timing</b>	<b>Outcomes</b>	<b>Type of review</b>	<b>Number of studies</b>
(COST Action B13 2003)	European clinical guidelines	Primary care Clinical	Low back pain	Acute (< 6 weeks) Sub-acute (6-12 weeks)	Clinical outcomes	Systematic + Clinical guideline	---
(Waddell & Watson 2004)	Biopsychosocial rehabilitation	Clinical and occupational	LBP and disability	5 acute 17 sub-acute & chronic 3 long-term incapacity	Occupational outcomes	Systematic search. Narrative review	15 RCT, 7 controlled trials, 2 cohort studies

[LBP = low back pain; OH = occupational health; RCT = randomised controlled trial].

**Table A3.4 Main findings from reviews of low back pain**

<b>Authors</b>	<b>Authors' conclusions</b> <i>(Additional reviewers' comments in italics)</i>
(Di Fabio 1995)	<p><b>Comprehensive rehabilitation programmes</b></p> <p>This review contrasted 'back schools' as a primary intervention with 'back schools' as part of comprehensive rehabilitation programmes. Meta-analysis showed that back schools coupled with a comprehensive programme were more effective for clinical outcomes of pain, physical impairment, and knowledge/compliance. However, disability and vocational outcomes were not significantly better than control groups for either approach. <i>(This was a limited and traditional definition of 'back schools').</i></p>
(Teasell & Harth 1996)	<p><b>Functional restoration for chronic low back pain</b></p> <p>Selection bias, incomplete follow-up and inappropriate allocation of compared patients casts doubt on the effectiveness of functional restoration programmes. Further clinical trials based on sound methodology are needed. <i>(This was a highly critical review of Cutler et al 1994 and of key studies on functional restoration programmes up to 1994).</i></p>
(Frank et al. 1996a)	<p><b>Secondary prevention of disability from occupational LBP.</b></p> <p>A review of the natural history of LBP and the risk factors for chronic disability, as the basis for secondary interventions to reduce the duration of occupational disability. Current clinical guidelines are based on extensive scientific evidence but there is little evidence that the guidelines are implemented or effective. Despite the lack of high quality RCTs, the authors conclude that there is strongly suggestive evidence for several workplace-based interventions. 1) Management retraining to more acceptance and accommodation of LBP, facilitating prompt reporting and treatment, including active rehab services at work, and the provision of modified duties. 2) Pro-active and employee-supported communication between the workplace, injured worker, health care and other involved parties. 3) 'Managed care' to ensure optimum medical treatment and rehabilitation, according to the best scientific evidence and current guidelines. 4) Integration of all these elements in a comprehensive intervention programme in the workplace.</p>
(Frank et al. 1998)	<p><b>Secondary prevention of LBP disability, concentrating on the stage of intervention.</b></p> <p>Management in the first 3-4 weeks should be conservative according to current clinical guidelines. Interventions at the sub-acute stage (between 3-4 and 12 weeks) should focus on return to work and can reduce time lost from work by 30-50%. There is substantial evidence that appropriately modified work can reduce the duration of work loss by at least 30%. A combination of these approaches in a co-ordinated, guidelines-based and work place-linked care system can reduce sickness absence due to LBP by 50% at no extra cost.</p>
(Scheer et al. 1997)	<p><b>Occupational outcomes for sub-acute and chronic low back pain</b></p> <p>Most of the trials (published by 1993) had serious methodological weaknesses. There was no clear evidence on what clinical interventions improved work capacity in patients with chronic LBP.</p>
(Karjalainen et al. 2000)	<p><b>Multidisciplinary biopsychosocial rehabilitation for sub-acute low back pain (Cochrane review)</b></p> <p><i>(A multidisciplinary biopsychosocial intervention was included if it provided a minimum of physical rehabilitation and one other element - psychological or social or occupational. However, the emphasis was on the profession providing each element of the intervention rather than the nature of the element itself. Only two RCTs were included - Lindstrom et al 1992 &amp; Loisel et al 1997.)</i> There is moderate evidence for the effectiveness of multidisciplinary rehabilitation for sub-acute LBP and workplace visit increases the effectiveness.</p>
(van Tulder et al. 2000)	<p><b>Behavioural treatment for chronic low back pain (Cochrane review)</b></p> <p>None of these RCTs (published up to up to April 1999) reported any sickness absence or return to work data.</p>
(Abenhaim et al. 2000)	<p><b>The role of activity in the therapeutic management of low back pain (Paris Task Force)</b></p> <p>(After 3 days) patients must be strongly encouraged to maintain or resume their normal activities, as far as pain allows. Maintenance or progressive resumption of activities of daily living is authorised in acute and sub-acute cases and recommended in chronic cases. (After the first week) patients with sub-acute, intermittent or recurrent sub-acute LBP should be encouraged to follow an active exercise programme. Patients with chronic LBP should perform physical, therapeutic or recreational exercises. There is no evidence for the effectiveness of any specific type of exercise, but there is evidence in favour of programmes combining strength training, stretching and fitness. The recommendations concerning activities of daily living also appear applicable to return to work because occupational activities (physical workload) are a subset of activity.</p>

<b>Authors</b>	<b>Authors' conclusions</b> <i>(Additional reviewers' comments in italics)</i>
(Waddell & Burton 2000; Carter & Birrell 2000)	<p><b>UK Occupational Health Guidelines: - Management of the worker having difficulty returning to normal occupational duties at 4-12 weeks:</b></p> <ul style="list-style-type: none"> <li>• There is strong evidence that the longer a worker is off work with LBP, the lower their chances of ever returning to work. Once a worker is off work for 4-12 weeks they have a 10-40% risk (depending on the setting) of still being off work at one year; after 1-2 years absence it is unlikely they will return to any form of work in the foreseeable future, irrespective of further treatment.</li> <li>• Various treatments for chronic LBP may produce some clinical improvement, but there is strong evidence that most clinical interventions are quite ineffective at returning people to work once they have been off work for a protracted period with LBP.</li> <li>• There is moderate evidence that for the patient who is having difficulty returning to normal activities at 4-12 weeks, changing the focus from purely symptomatic treatment to a 'back school' type of rehabilitation programme can produce faster return to work, less chronic disability and less sickness absence. There is no clear evidence on the optimum content or intensity of such packages, but there is generally consistent evidence on certain basic elements. There is moderate evidence that such interventions are more effective in an occupational setting than in a health care setting.</li> <li>• From an organisational perspective, there is moderate evidence that the temporary provision of lighter or modified duties facilitates return to work and reduces time off work. (Conversely, there is some suggestion that clinical advice to return only to restricted duties may act as a barrier to return to normal work, particularly if no lighter or modified duties are available.)</li> <li>• There is moderate evidence that a combination of optimum clinical management, a rehabilitation programme, and organisational interventions designed to assist the worker with LBP return to work, is more effective than single elements alone.</li> </ul>
(Elders et al. 2000)	<p><b>Return to work interventions.</b> Seven out of 8 studies of back school (exercise and functional conditioning combined with education and training in working methods and lifting techniques) produced significantly better return to work. The 'preventable fraction' (i.e. % reduction in days of sickness absence) varied from -11% to +80%. Intervention after 60 days during the sub-acute stage showed most promising results. Compliance was high.</p>
(Guzmán et al. 2001)	<p><b>Multidisciplinary rehabilitation for chronic LBP</b> <i>(A multidisciplinary biopsychosocial intervention was included if it provided a minimum of physical rehabilitation and one other dimension - psychological or social or occupational. The emphasis was again on the profession providing each element of the intervention rather than the nature of the element itself.)</i> There was strong evidence that intensive multidisciplinary biopsychosocial rehabilitation with functional restoration improved function compared with inpatient or outpatient non-multidisciplinary rehabilitation. There was contradictory evidence regarding vocational outcomes of intensive multidisciplinary biopsychosocial rehabilitation. Less intensive multidisciplinary biopsychosocial rehabilitation did not show improvements in pain, function or vocational outcomes compared with non-multidisciplinary outpatient rehabilitation or usual care. <i>(Conducted under a published Cochrane Collaboration protocol)</i></p>
(Staal et al. 2002)	<p><b>Return to work interventions.</b> The main focus of this review was on underlying concepts. The interventions varied in the target population, the timing and duration of sessions and the disciplines involved. Most interventions included physical exercises, followed in frequency by education, behavioural treatments and ergonomic measures. The commonest intervention was some form of 'back school' with a combination of physical exercises, behavioural treatment and education.</p>
(van Tulder & Koes 2002)	<p><b>All conservative treatments for chronic LBP and sciatica</b> Analgesics (4 RCTs), exercise (37 RCTs), behavioural therapy (11 RCTs) and multidisciplinary behavioural treatment programmes (11 RCTs) were found to be effective for reducing disability or increasing functional status. There was conflicting evidence on back schools, though they are possibly effective in occupational settings. <i>(This is the most comprehensive review of conservative treatment and clinical outcomes for all stages of LBP up to June 2002, but did not specifically focus on occupational outcomes.)</i> <i>(The review of the current evidence on exercise for chronic low back pain is particularly relevant to the present review.)</i> There are now 37 RCTs. They concluded that there is strong evidence that exercise therapy improves self reported pain and disability, compared with other treatments and 'usual care'. They found no clear evidence in favour of any one kind of back-specific exercises. There is limited evidence that exercise alone has much effect on return to work.</p>

<b>Authors</b>	<b>Authors' conclusions</b> <i>(Additional reviewers' comments in italics)</i>
(Schonstein et al. 2003)	<p><b>Physical conditioning programmes for workers with back and neck pain</b></p> <p>These trials provide evidence that physical conditioning programs that included a cognitive-behavioural approach could produce a clinically worthwhile reduction in the number of sick days taken at 12 months (average of 45 days; 95% confidence interval 3–88) when compared to general practitioner care or advice for workers with chronic back pain. There was little evidence that specific exercise programs that did not include a cognitive- behavioural component had any effect on time lost from work.</p>
(COST Action B13 2003)	<p><b>Draft European Guidelines for the management of acute non-specific low back pain in primary care</b></p> <p><b>Clinical management:</b></p> <ul style="list-style-type: none"> <li>• Advise patients to stay active and continue normal daily activities including work if possible.</li> <li>• Be aware of psychosocial factors, and review them in detail if there is no improvement.</li> <li>• Reassess patients who are not resolving within a few weeks after the first visit or who are following a worsening course.</li> <li>• Multidisciplinary treatment programs in occupational settings may be an option for workers with sub-acute low back pain and sick leave for more than 4-8 weeks</li> </ul> <p><b>Occupational health management:</b></p> <ul style="list-style-type: none"> <li>• Ensure that the need for an active approach to case management is understood by employees and employers and planning for this in anticipation of future incidents. The educational element in this would include a shared understanding that active management reduces pain and disability and that return to work before the person is pain free will often be the best way of speeding resolution of the discomfort.</li> <li>• Secure a collaborative approach to case management with primary care providers as soon as possible after an incident of back pain in order to plan an early and effective return to work, with temporary modification to tasks or working arrangements if this is likely to hasten recovery.</li> <li>• Arrange access to rehabilitation for anyone who has been away from work for more than four weeks.</li> </ul> <p><i>(These guidelines are mainly about clinical management, with a small appendix on occupational health management. This is the most comprehensive review of conservative treatment and clinical outcomes of acute and sub-acute LBP to 2003 but did not specifically focus on occupational outcomes).</i></p>
(Staal et al. 2003)	<p><b>International comparison of occupational health guidelines</b></p> <p>There was general agreement across all the international guidelines on numerous issues fundamental to occupational health management of back pain. The assessment recommendations consisted of diagnostic triage, screening for "red flags" and neurological problems, and the identification of potential psychosocial and workplace barriers for recovery. The guidelines also agreed on advice that low back pain is a self limiting condition and, importantly, that remaining at work or an early (gradual) return to work, if necessary with modified duties, should be encouraged and supported.</p>
(Waddell & Watson 2004)	<p><b>Rehabilitation for low back pain</b></p> <p>Review of rehabilitation interventions for LBP, analysed within a biopsychosocial framework to test the hypothesis that effective rehabilitation interventions should have all three biological, psychological and social elements to address all of the potential obstacles to recovery. Virtually all the interventions included some form of exercise or physical activity element to address the biological problem and restore physical function. However, it seems clear from this review and the evidence on exercise and functional restoration programmes <i>(reviewed separately)</i> that this physical element alone is insufficient to achieve return to work. Most successful interventions also addressed beliefs in one way or another, and many of them included some kind of occupational intervention. Most of the programmes that did not explicitly address these latter two elements were unsuccessful in achieving return to work. The balance of the evidence does seem to support the hypothesis that a rehabilitation intervention is more likely to produce successful vocational outcomes if it addresses all three bio-psycho-social elements of disability and obstacles to recovery. Furthermore, consideration of the interventions that initially appeared not to fit the hypothesis may help elucidate the nature of these elements.</p>



**Table A3.5 Characteristics of reviews of musculoskeletal conditions (including 'pain')**

Authors	Topic	Population / setting	Clinical condition	Timing	Outcomes	Type of review	Number of studies
(Riipinen et al. 1994)	Vocational rehabilitation	Working age	Musculoskeletal deficit	Variable	Return to work	Systematic search / narrative review	23 studies
(Kuorinka & Forcier 1995)	Occupational rehabilitation	Workers	ULD	Not specified	Return to work + clinical + prevention	Narrative	---
(Krause et al. 1998)	Modified work and return to work	Occupational	Work-related injuries	At time of return to work	Return to work Duration of absence	Systematic	29 empirical studies
(Morley et al. 1999)	Cognitive-behavioural and behavioural treatment	Adults	Chronic pain (excluding headache)	Chronic (average 12 y)	Mainly clinical	Systematic	25 RCTs
(Feuerstein & Zastowny 1999)	Multidisciplinary occupational rehabilitation	Workers	MSD and occupational disability	Chronic > 3 months	Return to work	Narrative (MSD) Systematic (LBP)	6 CT + 1 RCT (1984-94)
(van Tulder et al. 2000)	Nonsurgical treatment	Adults	Chronic neck pain	> 3 months	Clinical > return to work	Systematic	20 RCT
(Pilgion et al. 2000)	Health care and ergonomics	Workers	ULD	Not specified	Clinical and function	Narrative	---
(Konijnenberg et al. 2001)	Conservative treatments		RSI	Variable	Clinical and function	Systematic	15 trials
(Isernhagen 2000)	Workplace treatment	Workers	MSD	Early	Pain, disability	Narrative	---
(Karsh et al. 2001)	Workplace ergonomic interventions	Workplace	MSD (work-related)	Variable	Reduction of MSD + risk factors	Narrative	---
(National Research Council 2001)	Concepts of MSDs related to workplace	Workers / workplace	LBP and ULD	Not specified	Epidemiology + primary and secondary prevention	Narrative + consensus	---
(Turk 2002)	Pain rehabilitation programmes	Clinical	Chronic pain (MSD)	Not stated	Clinical, functional, claims closure, costs	Narrative	---
(Shaw et al. 2002)	Secondary prevention interventions in the workplace	Workers / workplace	Work-related MSD symptoms	Not specified	Return to work, work retention	Conceptual	---
(McClune et al. 2002)	Clinical interventions (included in a more general review)	Adults	WAD	Variable	Variable	Systematic search / narrative review	---
(de Buck et al. 2002)	Vocational rehabilitation	Working-age / variable	Chronic rheumatic diseases	Not available	Vocational status	Systematic	6 non-RCT
(Selander et al. 2002)	Vocational rehabilitation	Working-age	Neck, back, shoulder problems	Not specified	Return to work	Systematic search / narrative review	---
(Pransky et al. 2002)	Management strategies: ergonomic + health care	Workers / workplace	ULD and stress	Variable	Level of stress and ULD symptoms	Narrative	---

Authors	Topic	Population / setting	Clinical condition	Timing	Outcomes	Type of review	Number of studies
(Sinclair & Hogg-Johnson 2002)	Early active rehabilitation program	Community clinics	Work-related MSD	Very early – at time 'injury' is reported	Benefits, costs, health-related quality of life	Narrative (+ narrative report on a program)	---
(Busch et al. 2002)	Exercise for treating fibromyalgia syndrome	Clinical	Fibromyalgia	Variable	Clinical; physical; psychological	Cochrane review	16 RCT
(Karjalainen et al. 2003a)	Biopsychosocial rehabilitation	Working-age patients	RSI	Variable	Clinical, functional, RTW	Cochrane review	2 RCT
(Karjalainen et al. 2003b)	Multidisciplinary biopsychosocial rehabilitation	Working-age patients	Neck and shoulder pain	Not specified	Clinical, functional, RTW	Cochrane review	1 RCT, 1 CT
(Karjalainen et al. 2003c)	Multidisciplinary rehabilitation	Working-age patients	Fibromyalgia / widespread MSD pain	Not specified	Clinical, functional, RTW	Cochrane review	7 RCT
(Mannerkorpi & Iversen 2003)	Physical exercise in fibromyalgia and related syndromes	Clinical	Fibromyalgia	Variable	Symptoms; function	Systematic	---
(Verhagen et al. 2004)	Conservative treatment	Patients	WAD	Not chronic	Clinical, functional	Cochrane review	15 RCT
(Devereux 2003)	Ergonomics	Workers / workplace	Stress and MSD	Not specified	Injuries, stress	Conceptual	---

[CBT = cognitive behavioural therapy; CT = controlled trial; LBP = low back pain; MSD = musculoskeletal disorders; RCT = randomised controlled trial; RSI = repetitive strain injury; RTW = return to work; ULD = upper limb disorder; WAD = whiplash associated disorder]

**Table A3.6 Main findings from reviews of musculoskeletal conditions (including 'pain')**

<b>Authors</b>	<b>Authors' conclusions</b> <i>(Additional reviewers' comments in italics)</i>
(Riipinen et al. 1994)	<b>Vocational rehabilitation for musculoskeletal deficit</b> Stressed limited information but potential value from psychological adaptation, employment situation, and employers' policies. Because of study designs, generalisation of results difficult. <i>(Review of follow-up studies; separates comprehensive rehabilitation; intervention to alleviate chronic pain, therapy to promote functional capacity, and rehabilitation of severely handicapped. An early recognition of the biopsychosocial dimensions of vocational rehabilitation).</i>
(Kuorinka & Forcier 1995)	<b>Occupational rehabilitation of work-related musculoskeletal disorders (ULDs)</b> Medical management team important – should be familiar with workplace. Rehabilitation should follow sports medicine approach, including activity, fitness programmes, graded work hardening, job redesign, and instilling confidence. <i>(A statement of 'good practice' rather than an evidence review. Recognition of multiple components, but no evidence on efficacy).</i>
(Krause et al. 1998)	<b>Modified work and return to work with work-related injuries</b> Modified work programmes doubled the number of injured workers who return to work and halved the number of lost workdays. 11 studies dealt with LBP alone and another 11 were of all injuries including LBP. Most modified work consisted of light duties, although there were also some trials of graded work exposure and work trial periods, and in most studies modified work formed part of a much broader programme. <i>(There was only one RCT).</i>
(Morley et al. 1999)	<b>Cognitive-behavioural and behavioural treatment of chronic pain in adults (excluding headache)</b> For chronic pain (due to musculoskeletal disorders including back pain, upper limb pain, non-specific pain, fibromyalgia, osteoarthritis and rheumatoid arthritis), active psychological treatments based on cognitive behavioural principles are effective (for pain and coping variables). States data were notably sparse about change in work or occupational status. <i>(The trial patients had chronic pain of long duration, but no information available on whether they were working or not).</i>
(Feuerstein & Zastowny 1999)	<b>Multidisciplinary occupational rehabilitation/management for work-related musculoskeletal pain and disability</b> Conceptually, proposed a broad occupational rehabilitation approach tailored to a diverse set of presenting problems that includes medical management, physical conditioning, pain and stress management, workplace psychosocial and ergonomic consultation, and vocational counselling and placement. Reported an average return to work rate for outpatient multidisciplinary rehabilitation (involving some if not all those components) for chronic low back pain was 67% compared with 44% for the controls (based on 7 prospective studies). <i>(Because of study variability and only one RCT being involved, these results should be viewed with caution. Whilst the authors suggest that similar interventions will be appropriate for other work-related MSDs, no prospective studies were presented).</i>
(van Tulder et al. 2000)	<b>Nonsurgical treatment of chronic neck pain</b> An authoritative review of health care treatments. Because of methodologic problems, it is not opportune to make recommendations in favour of any type of treatment for chronic neck pain. Definite need for more high-quality studies. <i>(Rehabilitation approaches were not included)</i>
(Piligian et al. 2000)	<b>Management of chronic work-related musculoskeletal disorders of the distal upper extremity</b> Includes de Quervain's disease, tendonitis, epicondylitis, cubital tunnel syndrome, hand-arm vibration syndrome. Diagnostic criteria are an issue. Dearth of studies evaluating clinical treatment or ergonomic interventions: most treatment recommendations based on consensus. Aim of treatment seen as reduction of pain and disability + restoration of function. Workplace ergonomic modification seen as critical adjunct to medical management: in absence of ergonomist, clinician should take steps. <i>(Suggested that management options were basically 'health care', but role of workplace modification recommended for all the conditions).</i>
(Isernhagen 2000)	<b>Primary and secondary therapy for the acute musculoskeletal disorder</b> Primary and secondary therapy in the occupational setting for acute MSDs should be available. The successful concepts for optimum primary and secondary therapy are early, active, functional, progressive, and work-related. Primary and secondary therapy have the potential to keep workers in a healthier, productive, more functional role and to avoid the negative outcomes of chronic pain, dysfunction, and disability. Occupational rehabilitation has some similarity to sports medicine concepts. <i>(Narrative review - focused on provision of 'treatment' fully integrated in the workplace: uses concept of 'transitional work' as a structured approach to modified work).</i>

<b>Authors</b>	<b>Authors' conclusions</b> <i>(Additional reviewers' comments in italics)</i>
(Konijnenberg et al. 2001)	<b>Conservative treatment for repetitive strain injuries ( RSI)</b> Limited evidence that multidisciplinary rehabilitation, ergonomic intervention measures, exercises, and spinal manipulation combined with soft tissue therapy are effective in providing symptom relief or improving activities of daily living. There is conflicting evidence for effectiveness of behavioural therapy. More high-quality trials needed. <i>(Return to work outcomes not specifically addressed)</i>
(National Research Council 2001)	<b>Musculoskeletal disorders and the workplace</b> The weight and pattern of the evidence supports the conclusion that primary and secondary prevention interventions to reduce the incidence, severity and consequences of MSDs in the workplace are effective when properly implemented. The most effective strategies involve a combined approach: mediate physical stressors, involve employees, and employer commitment. No specific design, restriction, or practice for universal application is supported by the scientific literature. <i>(Essentially a 'panel consensus' document, albeit comprehensively reviewing the literature. Focused on evidence for causation and on ergonomics interventions as opposed to 'rehabilitation' or RTW)</i>
(Karsh et al. 2001)	<b>Workplace ergonomic interventions to control musculoskeletal disorders</b> Ergonomic interventions to control musculoskeletal disorders are, in many instances, effective in reducing musculoskeletal pain, discomfort, and injury. Although weight of evidence from rigorous controlled trials is not substantial, authors argue that weight of evidence from other designs shows definite positive benefit (yet previous reviews have less definitive findings). Interventions were: back belts, ergonomic/lifting training, exercise, job redesign, multiple intervention components. 84% of studies found positive results, although majority had mixed results – only 32% had experimental or quasi-experimental designs. <i>(A follow-on from previous NRC review in US, with more 'open' inclusion criteria. Focus on reduction of musculoskeletal disorders or their risk factors; importantly, medical and return to work interventions were excluded. Limited information for rehabilitation beyond indicating that workplace (ergonomic) changes may be a helpful component for facilitating work).</i>
(Turk 2002)	<b>Pain rehabilitation programmes</b> Cautions on interpretation of results of studies, but concludes: significantly better outcomes from pain rehabilitation programmes in respect of medication use, health care utilization, functional activities, return to work, closure of disability claims compared with other pain treatments; plus lower iatrogenic consequences and adverse events; plus more cost effective. Identification of patients most likely to benefit needs further research. <i>(Focus is firmly on pain, and details of the 'successful' programmes not given).</i>
(Shaw et al. 2002)	<b>Work-related musculoskeletal symptoms</b> Conceptually, 'secondary prevention interventions in the workplace' may focus on early detection and treatment of mild/moderate symptoms, and on accommodating temporary functional limitations to aid recovery and reduce likelihood of recurrence. Review examines several interventions aimed at physical work environment, modified duty, educational and exercise approaches, case management, and programmes for supervisors. Integrating care and facilitating communication among workers, health-care providers and the workplace emerge as salient features. As a whole the evidence shows that there is considerable potential to reduce disability and longer-term problems associated with work-related musculoskeletal pain. Efforts to reduce ergonomic risk factors, to enhance education and fitness, and to influence case managers and supervisors provide opportunities for effective secondary prevention. Integrating care and facilitating communication among workers, health care providers and the workplace emerge as particularly salient. <i>(A carefully conducted and argued review displaying the potential for modern joined-up management, though robust scientific evidence limited)</i>
(McClune et al. 2002)	<b>Whiplash associated disorders</b> Biopsychosocial model applies. Early active management strategy most effective, where cognitive behavioural approaches can aid achieving early activation. Ill-directed and blanket health care probably contributes to chronicity. Appropriate information and advice may also help. Social policy may exert influence on symptoms and disability. <i>(Comprehensive review of numerous aspects of WAD, including management/rehabilitation. Limited specific data on interventions, and not focused on RTW).</i>
(de Buck et al. 2002)	<b>Vocational rehabilitation for chronic rheumatic diseases</b> Five of six vocational rehabilitation programmes consisted of multidisciplinary interventions. Although 15% to 69% of patients returned to work, there were methodological shortcomings that limit proof of benefit from the interventions. <i>(All the studies reviewed were uncontrolled studies. Interventions were programmes specifically aimed at having patients with rheumatic diseases re-enter or remain in the workforce).</i>

<b>Authors</b>	<b>Authors' conclusions</b> <i>(Additional reviewers' comments in italics)</i>
(Selander et al. 2002)	<b>Return to work following vocational rehabilitation for musculoskeletal problems</b> Multidisciplinary treatment more effective than single-mode treatment. Education may be more effective than work training. Inconsistent evidence for value of early vocational rehabilitation. Involvement of client/patient in vocational rehabilitation seen as important. A vocational rehabilitation counsellor to guide client through system may be helpful, but depends on competencies. <i>(Concerned with neck, back, shoulder problems. Focus of the review was largely on 'obstacles': no programme details given in discussion of 'effective' rehabilitation).</i>
(Pransky et al. 2002)	<b>Management of stress and work-related upper limb disorders</b> Stress and work-related upper limb disorders are linked. Although evidence is incomplete, it is suggestive that individual and workplace interventions (targeted at stress reduction) delivered in primary care or workplace may be helpful. Examples studied included: numerous outcomes including stress, upper limb symptoms, and work outcomes; numerous (combined) interventions including stress reduction techniques, CBT, physical rehabilitation, pain management. Tabulated examples indicated that effects of 'ergonomics-only' interventions were inconsistent. Further research warranted. <i>(Preliminary evidence that combining ergonomics and stress management/rehabilitation interventions may be effective).</i>
(Sinclair & Hogg-Johnson 2002)	<b>Early rehabilitation: the Ontario experience</b> A province-wide early active intervention for MSDs (community clinic program based on a sports medicine model) did not have expected benefits. The key ingredient missing from the clinics was any meaningful tie to the workplace, or even a legitimisation of clinics' role in helping to negotiate modified work. Concept of early intervention is variable both temporally and with regard to type of care provided. Appropriately matching interventions with stage in recovery is an approach that may prove more effective. <i>(More a constructive critique of the intervention program than a review. Points out that timing and intervention need to be put in context).</i>
(Busch et al. 2002)	<b>Exercise for treating fibromyalgia syndrome (Cochrane review)</b> Aerobic training studies reported improvements for aerobic performance, tender point pain pressure threshold, and pain. Insufficient information on intensity, duration, frequency, and mode of exercise. Supervised aerobic exercise training has beneficial effects on physical capacity and symptoms in fibromyalgia syndrome; strength training may have benefits for some symptoms.
(Karjalainen et al. 2003a)	<b>Biopsychosocial rehabilitation for upper limb repetitive strain injuries (RSI) (Cochrane review)</b> Only two relevant studies found, both low quality and clinical relevance unsatisfactory. Little scientific evidence for effectiveness of biopsychosocial rehabilitation for RSI. One small trial suggested hypnosis supplementary to comprehensive treatment can decrease pain intensity for acute RSI at 6-weeks. Need for high quality trials. <i>(Clearly little 'scientific' work done in this field –no information on vocational outcomes)</i>
(Karjalainen et al. 2003b)	<b>Multidisciplinary biopsychosocial rehabilitation for neck and shoulder pain (Cochrane review)</b> Only two relevant studies found: 1 low quality randomised trial and 1 low quality controlled trial. Limited scientific evidence for effectiveness of multidisciplinary biopsychosocial rehabilitation for neck and shoulder pain, compared with other commonly used intervention. Urgent need for high quality trials. <i>(Clearly little 'scientific' work done in this field, but work outcomes were a feature of the included studies)</i>
(Karjalainen et al. 2003c)	<b>Multidisciplinary rehabilitation for fibromyalgia and musculoskeletal pain (Cochrane review)</b> Only seven (low quality) relevant studies found: 4 randomised trials on fibromyalgia suggested no quantifiable benefit; 3 randomised trials on widespread musculoskeletal pain showed that, based on limited evidence, no evidence of efficacy was observed. Behavioural treatment and stress management appear to be important components. Education combined with physical training showed some positive effects in the long term. Only one study focused on work outcomes: the effects were 'neutral'. Overall, little scientific evidence for effectiveness of multidisciplinary rehabilitation for these conditions. Need for high quality trials. <i>(Limited 'scientific' work done in this field – little information on vocational outcomes)</i>
(Mannerkorpi & Iversen 2003)	<b>Physical exercise in fibromyalgia and related syndromes</b> Low-intensity aerobic exercise, such as walking, can improve function and symptoms. Aerobic exercise performed twice a week at moderate intensity can improve aerobic capacity and reduce tenderness. Pool exercise can improve function, distress, and symptoms. Strength training at adequate load can improve strength without exacerbation of symptoms. Most patients tolerate low-intensity exercise. Exercise prescriptions should be individualised and should include a long-term plan to maximise functioning and well-being.

<b>Authors</b>	<b>Authors' conclusions</b> <i>(Additional reviewers' comments in italics)</i>
(Verhagen et al. 2004)	<p><b>Conservative treatment for whiplash (Cochrane review)</b></p> <p>Fifteen studies included: only 3 high quality. Limited evidence that both passive and active interventions seemed more effective than no treatment. Conflicting evidence about effectiveness of active versus passive interventions: all but one study mentioned positive results but the high quality studies were conflicting. Only one study found for chronic whiplash, thus no conclusions could be drawn about chronic whiplash. <i>(Most studies have been on acute whiplash, few studies included vocational outcomes – inconsistent effect. Few of the interventions can be considered rehabilitation. The addition of 4 new studies to previous Cochrane review has meant authors had to move away from their previous conclusion that 'rest makes rusty').</i></p>
(Devereux 2003)	<p><b>Work-related stress and work-related musculoskeletal disorders – implications for ergonomics interventions</b></p> <p>Epidemiological and psycho-physiological evidence implicating work-related mental stress and development of work-related musculoskeletal disorders. Ergonomic interventions in the workplace are needed to reduce the risks of physical and psychosocial work risk factors for musculoskeletal disorders via organisation design changes. Individual susceptibility should be an increasing concern for ergonomists. <i>(Focus was on ergonomic primary intervention, but concept of targeting organisational (stress) factors and individual susceptibility may have implications for rehabilitation).</i></p>

**Table A3.7 Characteristics of reviews of cardio-respiratory conditions**

Authors	Topic	Population / setting	Clinical condition	Timing	Outcomes	Type of review	Number of studies
<b>Cardiac conditions</b>							
(Horgan et al. 1992)	Working party report on cardiac rehabilitation in UK	Clinical	CHD	Not specified	Clinical and vocational	Report	---
(Blumenthal & Wei 1993)	Psychobehavioural treatment in cardiac rehabilitation	Clinical	MI	Early	Clinical and vocational	Narrative	---
(Thompson 1995)	How can cardiac rehabilitation be improved?	Clinical and community	Cardiac	Once patient has entered health care setting	Clinical and vocational	Narrative	---
(Lusk 1995)	RTW after myocardial infarction	Clinical and occupational	MI	As soon as possible after MI	Clinical and vocational	Narrative	2
(Wenger et al. 1995)	Recommendations for provision of cardiac rehabilitation services – USA clinical guidelines	Clinical	CHD	Not specified	Clinical and vocational	Systematic + Clinical guideline	---
(Dafoe & Cupper 1995)	Vocational considerations and return to work	Cardiac patients	Cardiac	Early	Vocational/return to work	Conceptual	---
(Thompson et al. 1996)	Summary of clinical guidelines and audit standards in cardiac rehabilitation in the UK	Clinical	Cardiac	Not specified	Clinical and vocational	Workshop summary	---
(NHS Centre for Reviews 1998)	Summary of research evidence on the effectiveness of cardiac rehabilitation.	Clinical	CHD	Not specified	Clinical	Narrative	---
(Franklin et al. 1998)	Changing paradigms and perceptions of cardiac rehabilitation	Clinical	CVD	Early	Clinical and vocational	Narrative	---
(Monpere 1998)	Guidelines and recommendations for cardiac rehabilitation programs	Clinical	CVD	Not specified	Clinical and vocational	Synthesis of guidelines	---
(Gohlke & Gohlke-Bärwolf 1998)	Evaluation of components of cardiac rehabilitation	Clinical	Coronary disease	Not specified	Clinical and vocational	Narrative	---
(Wright 1999)	Efficacy of cardiac rehabilitation and the reality of services in UK	Clinical	Cardiac	Not specified	Clinical and risk factors.	Narrative	---
(Dusseldorp et al. 1999)	Effects of psychoeducational programmes for CHD patients	Clinical	MI, CABG, PTCA	Not specified	Clinical	Meta-analysis	28 RCT 9 other studies
(Dinnes et al. 1999)	Effectiveness of cardiac rehabilitation	Clinical	Heart disease	Not specified	Clinical	Systematic	9 RCT; 28 CT
(Donker 2000)	Current developments in cardiac rehab	Clinical	CHD	Not specified	Risk factor modification	Narrative	---
(de Gaudemaris 2000)	Return to work with cardiovascular disease and public safety	Clinical	CVD	Not specified	Vocational	Narrative	---
(McAlister et al. 2001)	Effectiveness of multidisciplinary disease management programmes	Clinical	CHD	Not specified	Clinical	Systematic	12 RCTs
(Ades 2001)	Cardiac rehabilitation and secondary prevention of CHD	Clinical	CHD	Not specified	Clinical and vocational	Narrative	---
(Mital & Mital 2002)	Returning coronary heart disease patients to work	Clinical	CHD	ASAP	Clinical and vocational	Narrative	---

Authors	Topic	Population / setting	Clinical condition	Timing	Outcomes	Type of review	Number of studies
(Cooper et al. 2002)	Factors associated with cardiac rehabilitation attendance	Clinical	CHD	Not specified	Rehabilitation attendance	Systematic	15
(Jolliffe et al. 2003)	Effectiveness of exercise-only or as part of comprehensive cardiac rehabilitation programme	Clinical	CHD	Not specified	Clinical	Cochrane review	51
(Womack 2003)	Cardiac rehabilitation secondary prevention programmes	Clinical	Cardiac	Early	Clinical	Narrative	---
(Giannuzzi et al. 2003)	Recommendations related to each of the core components of cardiac rehabilitation	Clinical	CVD	Not specified	Clinical	Position paper	---
(Rodgers et al. 2004)	Psychosocial interventions in cancer and heart disease	Clinical	Cardiac (and cancer)	Not specified	Psychological, behavioural, morbidity, mortality	Systematic review of systematic reviews	7 systematic reviews (cardiac)
<b>Respiratory conditions</b>							
(Cambach et al. 1999)	Pulmonary rehabilitation in patients with asthma and COPD	Clinical	Asthma and COPD	Not specified	Clinical and functional	Meta-analysis	18 RCT or CT
(Holloway & Ram 2003)	Effectiveness of breathing-retraining in the treatment of patients with asthma	Clinical	Asthma	Not specified	Clinical	Cochrane review	5
(Gibson et al. 2003)	Self-management education and regular practitioner review for adults with asthma	Clinical	Asthma	Not specified	Clinical; functional; occupational	Cochrane review	36 trials
(Monninkhof et al. 2003)	Efficacy of COPD self-management/education programmes on health outcomes and use of health services	Clinical	COPD	Not specified	Clinical	Cochrane review	12
(Lacasse et al. 2003)	Pulmonary rehabilitation for COPD	Clinical	COPD	Not specified	Clinical + quality of life + functional	Cochrane review	23 RCT

[CHD – coronary heart disease; CABG = coronary artery by-pass grafting; COPD = chronic obstructive pulmonary disease; CR = cardio-respiratory; CT = controlled trial; CVD = cardio-vascular disease; MI = myocardial infarction; PTCA = percutaneous transluminal coronary angioplasty; RCT= randomised controlled trial; RTW = return to work]



**Table A3.8 Main findings from reviews of cardio-respiratory conditions**

<b>Authors</b>	<b>Authors' conclusions</b> <i>(Additional reviewers' comments in italics)</i>
<b>Cardiac conditions</b>	
(Horgan et al. 1992)	<p><b>Working party report on cardiac rehabilitation in UK</b></p> <p>Cardiac rehabilitation should restore patients to their optimal physiological, vocational and social status. RTW is usually an explicit aim of cardiac rehabilitation. Vocational services need to be involved early in the rehab process because prolonged inactivity can lead to permanent incapacity. To this end, job characteristics should be evaluated. Good communications between the medical staff and those providing vocational counselling about medical status, exercise tolerance, and psychological outcome are essential in the decision to return to work. Resumption of work is largely determined by factors that cardiac rehab cannot influence – age, severity of disease, educational level, and adequacy of pension and retirement benefits. The role of vocational rehabilitation in recovery needs greater recognition.</p>
(Blumenthal & Wei 1993)	<p><b>Psychobehavioural treatment in cardiac rehabilitation</b></p> <p>In general, psychobehavioural approaches include exercise, smoking cessation, stress management and Type A behaviour modification, other psychological therapies and dietary modification. Early intervention psychological intervention does not increase the likelihood of patients returning to work, but treated patients returned to work significantly earlier than non-treated patients. In-hospital relaxation training and stress management helped patients to perform better on several measures of vocational and psychological functioning. <i>(One of few reviews that attempt to evaluate the effects of specific psychological intervention).</i></p>
(Thompson 1995)	<p><b>How can cardiac rehabilitation be improved?</b></p> <p>Comprehensive cardiac rehabilitation should include exercise training, educational counselling, risk factor modification, vocational guidance, relaxation and stress management training - personally tailored offering a menu-driven programme to all individuals who need it, including undiagnosed patients who require secondary prevention. Rehabilitation should begin once a patient has entered the health care setting, but does not usually begin for 4-6 weeks following discharge from hospital. Adherence to rehabilitation programmes is depressingly low. <i>(An Editorial summarising status and important needs in cardiac rehabilitation)</i></p>
(Lusk 1995)	<p><b>Return to work after myocardial infarction</b></p> <p>Occupational health nurses have an important role in planning for and implementing RTW. Specific suggestions for involvement early in the worker's recuperative period, including early contact with the worker, offering support and encouragement by telephoning/visiting, maintaining the link to the workplace, encourage co-workers, supervisors, and/or subordinates to maintain contact with the worker. These suggestions debunk the 'clinical lore' myth that overprotection results in 'cardiac invalids', and that return to work was partly predicted by perceptions of high social support <i>(However, RTW was also predicted by perceptions of inadequate support at a later stage)</i>. In addition, occupational health nurses have a role in devising RTW programs, including modified work, which results in a reduction of dependence on physicians for determination of RTW, who may not have as clear an understanding of the physiological aspects of the job.</p>
(Wenger et al. 1995)	<p><b>Clinical practice guideline for cardiac rehabilitation services - USA</b></p> <p>Symptomatic and functional improvement in survivors of MI and revascularisation procedures correlate poorly with RTW and general resumption of pre-illness lifestyle; psychosocial status appears to be a more important determinant. Exercise training exerts less influence on rates of RTW than many non-exercise variables including employer attitudes, prior employment status, and economic incentives. Exercise training, as a sole intervention, is not recommended to facilitate return to work. Education, counselling, and behavioural interventions have not been shown to improve rates of RTW, which are contingent on many social and policy issues. In selected patients, formal cardiac rehabilitation vocational counselling may improve rates of RTW. <i>(Uses US Public Health Service definition – 'cardiac rehabilitation services are comprehensive long-term programmes involving medical evaluation, prescribed exercise, cardiac risk factor modification, education, and counselling').</i></p>

<b>Authors</b>	<b>Authors' conclusions</b> <i>(Additional reviewers' comments in italics)</i>
(Dafoe & Cupper 1995)	<p><b>Vocational considerations and return to work</b></p> <p>Vocational issues for cardiac patients increasingly carry an expectation that cardiac patients should, if at all possible, be gainfully employed. A successful return to work can be viewed as a major milestone in rehabilitation process. Some individuals should not return, but when work return is an accepted goal, early proactive approach important. Health professionals need to anticipate, identify and modify obstacles to return to work at an early stage, and alleviate associated anxiety. Continuing contact between employer and absent employee may facilitate RTW. Involvement of company physician in modified work is important. Co-workers' attitudes to the returning employee should be supportive, as indeed should the attitudes of the family – they need appropriate information. The (early) decision to return to work is a crucial step, needing good communication between patient, employer, primary care physician and rehabilitation service. Vocational counselling, as a component of cardiac rehabilitation, should be flexible and community-based. <i>(Not strictly evidence-based, rather a discussion of concepts).</i></p>
(Thompson et al. 1996)	<p><b>Summary of clinical guidelines and audit standards in cardiac rehabilitation in UK</b></p> <p>Patients should be encouraged to remain independent, and should have a say in what they are willing to do. RTW is considered a major end point in cardiac rehabilitation. A high percentage of patients who were working before will return to work, but a high proportion will leave work again or change jobs in the first year after returning. There needs to be collaboration between cardiac rehabilitation and occupational health medicine to ensure optimum and effective RTW. <i>(Summary of a workshop convened to prepare clinical guidelines and audit standards in cardiac rehabilitation in the UK)</i></p>
(NHS Centre for Reviews 1998)	<p><b>Summary of research evidence on the effectiveness of cardiac rehabilitation - UK</b></p> <p>Current provision of cardiac rehabilitation is growing rapidly but there is a wide variation in practice, management, and organisation of services. Many patients who might benefit do not receive cardiac rehabilitation. Exercise improves physical aspects of recovery at no additional risk, but as a sole intervention it is not sufficient to reduce risk factors, morbidity or mortality – yet the majority of programmes are exercise-based. Many of the problems experienced by people with heart disease are not due to physical illness but to anxiety and misconceptions about their health. RTW rates are fairly high following an acute cardiac event, but a substantial number retire early or become unemployed. Further research is required to identify the optimal method of delivering the service. Uptake and adherence can be poor – helps if doctor strongly recommends, when access is convenient, when partner/spouse involved. <i>(UK Effective Health Care Bulletin – these are based on systematic review and synthesis of research; produced by methodologists with expert input. Limited information on RTW but strongly advocates the biopsychosocial approach)</i></p>
(Franklin et al. 1998)	<p><b>Changing paradigms and perceptions of cardiac rehabilitation</b></p> <p>Risk stratification has emerged as the centrepiece of strategies aimed at stabilising or enhancing the clinical status of post-MI patients, as well as vocational counselling. The objectives of contemporary cardiac rehabilitation are to increase functional capacity, decrease symptoms, stop cigarette smoking, modify lipids and lipoproteins, decrease body weight and fat stores, reduce blood pressure and improve psychosocial well-being. Vocational counselling is often under-emphasised in contemporary cardiac rehabilitation. An occupational work evaluation may hasten return to work because it reassures the worker and their primary care physician that the physical, psychological, and environmental stresses associated with the job can be safely tolerated. Coronary risk status is much more important than functional capacity in determining RTW. <i>(More explicit on the 'bio' aspects of rehabilitation than the psychosocial or vocational aspects, but suggests that these dimensions are implicit in contemporary rehabilitation).</i></p>
(Monpere 1998)	<p><b>Synthesis of guidelines for cardiac rehabilitation programs</b></p> <p>One of the benefits of cardiac rehabilitation is an increased rate of return to work. The goal of vocational counselling within cardiac rehabilitation is to match the patient's physical and psychological profiles with the demands of the workplace. The assessment of patients for returning to work must be done in all working cardiac patients during their rehab: exercise training alone is not sufficient to optimise RTW rate.</p>
(Gohlke & Gohlke-Bärwolf 1998)	<p><b>Evaluation of the components of cardiac rehabilitation</b></p> <p>Cardiac rehabilitation as a multifactorial intervention has been shown to improve functional capacity, emotional well-being, return-to-work rate and longevity. Definitions of cardiac rehabilitation include not only the field of cardiology but also psychological and social intervention. However, the practice of cardiac rehabilitation in Europe differs greatly from country to country, and the impact of cardiac rehabilitation on vocational outcomes is thus difficult to evaluate. As better functional capacity is not only related to prognosis but also to RTW, it remains unclear whether the improved RTW rate after cardiac rehabilitation is the result of improved well-being and physical conditioning or the result of specific vocational counselling. <i>(This conflicts with other findings which have said that functional capacity is not predictive of RTW).</i></p>

<b>Authors</b>	<b>Authors' conclusions</b> <i>(Additional reviewers' comments in italics)</i>
(Wright 1999)	<p><b>Efficacy of cardiac rehabilitation and the reality of services in UK</b></p> <p>Cardiac rehabilitation is at present inconsistent across the UK, and the results from studies assessing the efficacy of rehabilitation have been disappointing and contradictory. Most of the data available are limited to post-MI patients, and it is difficult to objectively evaluate many of the parameters involved in rehab, such as exercise capacity, psychological well-being and vocational impact. RTW is a primary aim of cardiac rehab, but it is difficult to evaluate the impact of rehabilitation on vocation because of the large number of variables that require simultaneous consideration. Ideally, rehabilitation programs should be available to all cardiac patients and not just those recovering from MI or CABG. Physiotherapists lead 80% of programs, with variable participation from other health professionals.</p>
(Dusseldorp et al. 1999)	<p><b>Psychoeducational programmes for coronary heart disease patients</b></p> <p>The development of psychoeducational programmes in cardiac rehab should be stimulated and that risk factor modification and reduction of emotional distress should be targeted to reduce chances of a fatal or non fatal recurrence of MI. Results suggest that psychoeducation programmes yielded a 34% reduction in cardiac mortality, a 29% reduction in the recurrence of MI, and significant positive effects on blood-pressure, cholesterol, body weight, smoking, behaviour, physical exercise and eating habits. <i>(No analysis of vocational outcomes, but strongly advocates psychological component in rehab).</i></p>
(Dinnes et al. 1999)	<p><b>Effectiveness of cardiac rehabilitation</b></p> <p>Current service provision concentrates on low risk, white males, middle-aged post MI patients, however no evidence exists that other groups such as women, the elderly, ethnic minorities or high risk cardiac patients do not benefit. A combined approach of exercise and psychological and educational interventions appears to be more beneficial. Psychological and educational interventions can reduce risk factors, improve psychosocial well-being, and patient knowledge and may reduce morbidity and mortality. In practice, however, the information provided is often inadequate, inconsistent, and inaccurate and is frequently misunderstood by patients. Activity should not be significantly reduced after a cardiac event. Further research is required to identify the optimal method of delivering the service. <i>(This paper is a follow up to NHS Centre for Reviews 1998 reports on same material – a more critical overview. No links to RTW but highlights the need for higher quality studies, and also critically evaluates psychosocial interventions).</i></p>
(Donker 2000)	<p><b>Current concepts in cardiac rehabilitation</b></p> <p>Most programs to date apparently are not offering much more than physical rehabilitation, and that modification of the individual's risk factor profile seems to be the key element in cardiac rehabilitation – aiming to teach the patient to reach and maintain a sense of control over his own risk factor profile. If rehabilitation proceeds from a medical model a patient would see both problem and solution as outside his control, normally resulting in poor compliance. <i>(Suggests multidisciplinary approach as recommended in Dutch Guidelines, but acknowledges that there are relatively few objective and homogenous 'hard facts' about what exactly the effective ingredients in cardiac rehabilitation might be. No direct links to RTW, but recommendations of Dutch Guidelines include "optimal integration into work and/or household duties").</i></p>
(DH 2000)	<p><b>National Service Framework for coronary heart disease</b></p> <p>This UK government (NHS) initiative concerns how the NHS and others can best help people who have had a cardiac event maximise their chances of leading a full life and resuming their place in the community. It spells out national standards for coronary heart disease in 7 areas: 1) reducing heart disease in the population; 2) preventing coronary heart disease in high risk patients; 3) heart attack and other acute coronary syndromes; 4) stable angina; 5) revascularisation; 6) heart failure; 7) cardiac rehabilitation. The standard for cardiac rehabilitation requires that NHS Trusts put in place agreed protocols/systems so that (prior to leaving hospital after suffering coronary heart disease), patients have been invited to participate in a multidisciplinary programme of secondary prevention and cardiac rehabilitation, the aim of which is to reduce their risk of subsequent cardiac problems and to promote their return to a full and normal life.</p>
(de Gaudemaris 2000)	<p><b>Return to work with cardiovascular disease and public safety</b></p> <p>The decision whether or not to go back to work with cardiovascular disease involves not only weighing medical considerations but also the patient's psychosocial profile and factors associated with his or her job. Work can only be resumed with the cooperation of several parties, i.e. the patient's personal physician, cardiologist, and employer. Physicians are often reluctant to send their patients back to work based on their concern about prognosis. <i>(Very much based on health and safety guidelines in terms of 'risks' to public, but highlights a view that many decision makers might agree with).</i></p>

<b>Authors</b>	<b>Authors' conclusions</b> <i>(Additional reviewers' comments in italics)</i>
(McAlister et al. 2001)	<p><b>Multidisciplinary disease management programmes</b></p> <p>Disease management programs improve processes of care, reduce admissions to hospital, enhance quality of life or functional status in patients with coronary heart disease. Disease management has been defined as "a combination of patient education, provider use of practice guidelines, appropriate consultation, and supplies of drugs and ancillary services". <i>(No vocational links, but approach embodies biopsychosocial model and advocates use of guidelines).</i></p>
(Ades 2001)	<p><b>Cardiac rehabilitation and secondary prevention</b></p> <p>Exercise is only one component of a cardiac rehabilitation program – from the patient's point of view, the most prominent effects of cardiac rehabilitation fall within the psychological realm. Patients enrolled in programs that include psychosocial interventions have greater reductions in anxiety and depression, lower blood pressure, and lower rates of mortality and recurrent cardiac events at two years than do those enrolled in programs without a psychosocial component. Patients at a low or moderate risk of an adverse event can often return to work within two weeks, once the work environment and job requirements have been reviewed.</p>
(Mital & Mital 2002)	<p><b>Returning CHD patients to work</b></p> <p>RTW or reemployment at the earliest possible time should be the ultimate goal of any cardiac rehab program. Existing cardiac rehabilitation programs do not achieve a reduction in lost time from work, and programs should be based on job-related elements, rather than aerobic exercises that have no semblance to real work situations – physical or cognitive. Psychosocial factors are also more closely related to RTW outcomes than medical ones. When early RTW is the patient's major goal, a more multidisciplinary team approach is needed. <i>(This review was combined with an individual study in which a job simulation program was devised and tested - only conclusions from review extracted).</i></p>
(Cooper et al. 2002)	<p><b>Factors associated with cardiac rehabilitation attendance</b></p> <p>A number of factors influence attendance, some of which are modifiable. Non-attenders were likely to be older, have lower income/greater deprivation, to deny the severity of their illness, were less likely to believe they can influence outcome, or perceive that their physician recommends cardiac rehab. Job status, gender and health concerns play an indirect role in attendance behaviour. Although further research is needed with regards to establishing the most effective mechanism and delivery for full psychological and physical cardiac rehabilitation, optimising attendance and adherence of future rehabilitation is important. <i>(No direct link to vocational outcomes, or indeed the efficacy of rehab, but attendance will likely reflect on studies of efficacy).</i></p>
(Jolliffe et al. 2003)	<p><b>Effectiveness of exercise-only or as part of comprehensive cardiac rehabilitation programme (Cochrane review)</b></p> <p>Exercise-based cardiac rehab is effective in reducing cardiac deaths. It is not clear whether exercise only or a comprehensive cardiac rehab intervention is more beneficial. It is possible that patients who would have benefited most from the intervention were excluded from the trials on the grounds of age, sex, ethnic origin and co-morbidity. <i>(No links to RTW).</i></p>
(Womack 2003)	<p><b>Cardiac rehabilitation secondary prevention programmes</b></p> <p>The philosophy of early cardiac rehabilitation represents a shift in previous thinking, whereby patients did not begin rehabilitation until 6 weeks after their event. This shift is due to increased awareness of the safety of cardiac rehab, and is partly related to enhanced services provided regarding secondary prevention, and partly related to the fact that many cardiac patients return to work within 2-6 weeks of hospital discharge. Patients should be encouraged to remain in medically supervised programs for longer periods or indefinitely in order that ongoing exercise supervision, careful monitoring of disease progression and social and emotional support is provided. Cardiac rehabilitation should be population specific – depending on type of heart disease.</p>
(Giannuzzi et al. 2003)	<p><b>Recommendations related to each of the core components of cardiac rehabilitation</b></p> <p>Comprehensive cardiac rehabilitation is probably the most effective approach for cardiovascular risk reduction. The goals of cardiac rehabilitation and secondary prevention are (a) to prevent disability, particularly in older persons and those with occupations that involve physical exertion, and (b) to prevent subsequent cardiovascular events, hospitalisation, and death. Rehabilitation should not only be initiated for disabled patients, but is also suitable for acute diagnoses. There is convincing evidence that the combination of regular exercise with interventions for lifestyle changes and modification of risk factors favourably alter the clinical course of cardiovascular disease. <i>(No specific evaluation of rehab on vocational outcomes, but states that vocational counselling is a core component of a comprehensive program).</i></p>

<b>Authors</b>	<b>Authors' conclusions</b> <i>(Additional reviewers' comments in italics)</i>
(Rodgers et al. 2004)	<b>Psychosocial interventions in cancer and heart disease</b> <i>(Only the cardiac results are presented here).</i> Six of the seven heart disease reviews favoured the adoption of psychosocial interventions (which covered a very diverse range) into cardiac care. There were reported benefits for psychosocial interventions for the reduction of distress and modification of Type A behaviour. There is limited evidence about positive effects on morbidity and mortality. There is equivocal evidence on risk factors for heart disease. Educational interventions may influence some behavioural and clinical outcomes. The quality of studies and geographical settings limits the usefulness of the any economic results for policy makers in the UK. <i>(No results are available for vocational outcomes).</i>
<b>Respiratory conditions</b>	
(Cambach et al. 1999)	<b>Pulmonary rehabilitation in patients with asthma and chronic obstructive pulmonary disease</b> <i>(A critical review and meta-analysis of articles published since the 1950s).</i> Patients with asthma and chronic obstructive pulmonary disease benefit from pulmonary rehabilitation. Significant summary effect sizes were found for maximal exercise capacity and 6-minute walking distance. <i>(Interventions varied, and no information on vocational outcomes).</i>
(Holloway & Ram 2003)	<b>Effectiveness of breathing-retraining in treatment of asthma (Cochrane review)</b> No reliable conclusions can be drawn concerning the use of breathing exercises for asthma in clinical practice. <i>(No links to RTW)</i>
(Gibson et al. 2003)	<b>Self-management education and regular practitioner review for adults with asthma (Cochrane review)</b> <i>(Assessment of asthma self-management programmes, when coupled with regular health practitioner review).</i> Self-management education reduced hospitalisations, emergency room visits, unscheduled visits to the doctor, days off work or school, nocturnal asthma, and quality of life. Measures of lung function were little changed. Education in asthma self-management which involves self-monitoring by either peak expiratory flow or symptoms, coupled with regular medical review and a written action plan (enabling people to adjust their medication) improves health outcomes for adults with asthma.
(Monninkhof et al. 2003)	<b>Efficacy of chronic obstructive pulmonary disease self-management education programmes (Cochrane review)</b> Further research on the effectiveness of self-management programmes should be focused on behavioural change evaluated in well designed RCTs with standardised outcomes designed for use in chronic obstructive pulmonary disease patients, and with long follow-up time so that definite conclusions can be made. Days lost from work may not be an adequate outcome in chronic obstructive pulmonary disease patients because many are in the older age groups and often retired. Since, in most chronic obstructive pulmonary disease studies, a minority of the patients undertake paid work, restricted activity days, indicating days in which the normal activities are reduced by the disease, perhaps would be a better outcome. <i>(Perhaps this applies to other cardiac conditions, making the RTW literature biased towards conditions that permit/facilitate work)</i>
(Lacasse et al. 2003)	<b>Pulmonary rehabilitation for chronic obstructive pulmonary disease (Cochrane review)</b> Rehabilitation relieves dyspnoea and fatigue and enhances sense of control over condition – these improvements are moderately large. Rehabilitation forms important component of management of chronic obstructive pulmonary disease. <i>(No links to RTW)</i>

## References

- Abenhaim L, Rossignol M, Valat JP, Nordin M, Avouac B, Blotman F, Charlot J, Dreiser RL, Legrand E, Rozenberg S, Vautravers P. 2000. The role of activity in the therapeutic management of back pain. Report of the International Paris Task Force on back pain. *Spine* 25 (4S): 1S-33S.
- ABI. 2002. *Getting back to work: a rehabilitation discussion paper*. Association of British Insurers, London.
- Ades PA. 2001. Cardiac rehabilitation and secondary prevention of coronary heart disease. *The New England Journal of Medicine* 345: 892-902.
- Amick III BC, Habeck RV, Hunt A, Fossel AH, Chapin A, Keller RB, Katz JN. 2000. Measuring the impact of organizational behaviors on work disability prevention and management. *Journal of Occupational Rehabilitation* 10: 21-38.
- Arthur AR. 2000. Employee assistance programmes: the emperor's new clothes of stress management? *British Journal of Guidance & Counselling* 28: 549-559.
- Baronet A-M, Gerber GJ. 1998. Psychiatric rehabilitation: efficacy of four models. *Clinical Psychology Review* 18: 189-228.
- Barsky AJ, Borus JF. 1999. Functional somatic syndromes. *Ann Intern Med* 130: 910-921.
- Beck DA, Koenig HG. 1996. Minor depression: a review of the literature. *Int J Psychiatry in Medicine* 26: 177-209.
- Becker DR, Smith J, Tanzman B, Drake RE, Tremblay T. 2001. Fidelity of supported employment programs and employment outcomes. *Psychiatric Services* 52: 834-836.
- Bevan S, Hayday S. 2001. *Costing sickness absence in the UK. Report 382*. Institute for Employment Studies, Brighton.
- Beveridge W. 1942. *Social insurance and allied services. Cmd 6404*. Her Majesty's Stationery Office, London (Reprinted 1984).
- BICMA. 2000. *Code of best practice on rehabilitation, early intervention and medical treatment in personal injury claims: a practitioner's guide to rehabilitation*. Bodily Injury Claims Management Association, London.
- Blumenthal JA, Wei J. 1993. Psychobehavioral treatment in cardiac rehabilitation. *Cardiology Clinics* 11: 323-331.
- Boardman J. 2001. Mental health and employment. *The Mental Health Review* 6: 6-12.
- Bond GR. 1998. Principles of the individual placement and support model: Empirical support. *Psychiatric Rehabilitation Journal* 22: 11-23.
- Bond GR, Becker DR, Drake RE. 2001. Implementing supported employment as an evidence-based practice. *Psychiatric Services* 52: 313-322.
- Bond GR, Drake RE, Mueser KT, Becker DR. 1997. An update on supported employment for people with severe mental illness. *Psychiatric Services* 48: 335-346.
- Brooker A-S, Clarke J, Sinclair S, Pennick V, Hogg-Johnson S. 2000. Effective disability management and return-to-work practices. In *Injury and the new world of work* (Ed. Sullivan T): 246-261, University of British Columbia Press, Vancouver.
- BSRM. 2000. *Vocational rehabilitation. The way forward*. British Society of Rehabilitation Medicine, London.

- Burton C. 2003. Beyond somatisation: a review of the understanding and treatment of medically unexplained physical symptoms (MUPS). *British Journal of General Practice* 53: 231-239.
- Busch A, Schachter CL, Peloso PM, Bombardier C. 2002. Exercise for treating fibromyalgia syndrome (Cochrane Review). In *The Cochrane Library, Issue 3 Update Software*, Oxford.
- Cabinet Office. 1998. *Working well together. Managing attendance in the public sector*. Cabinet Office, London [www.cabinet-office.gov.uk](http://www.cabinet-office.gov.uk).
- Cambach W, Wagenaar RC, Koelman TW, van Keimpema AR, Kemper HC. 1999. The long-term effects of pulmonary rehabilitation in patients with asthma and chronic obstructive pulmonary disease: a research synthesis. *Arch Phys Med Rehabil* 80: 103-111.
- Cameron M, Heidel S. 2000. Behavioral risk management. A partnership between occupational health nursing and occupational psychiatry. *AAOHN* 48: 533-541.
- Carter JT, Birrell LN. 2000. *Occupational health guidelines for the management of low back pain at work - principal recommendations*. Faculty of Occupational Medicine, London [www.facocmed.ac.uk](http://www.facocmed.ac.uk).
- CBI. 2000. *Their health in your hands. Focus on occupational health partnerships*. Confederation of British Industry, London.
- Cooper AF, Jackson G, Weinman J, Horne R. 2002. Factors associated with cardiac rehabilitation attendance: a systematic review of the literature. *Clinical Rehabilitation* 16: 541-552.
- Corden A, Thornton P. 2002. *Employment programmes for disabled people: Lessons from research evaluations. In-house report 90*. Her Majesty's Stationery Office, London.
- COST Action B13. 2003. *Low back pain: guidelines for its management*. European Commission Research Directorate General, [www.backpaineurope.org](http://www.backpaineurope.org).
- Cox T, Griffiths A, Rial-Gonzalez E. 2000. *Research on work-related stress*. European Agency for Safety and Health at Work, Luxembourg.
- Crowther R, Marshall M, Bond G, Huxley P. 2004. Vocational rehabilitation for people with severe mental illness (Cochrane Review). In *The Cochrane Library, Issue 1* John Wiley & Sons Ltd, Chichester.
- Crowther RE, Marshall M, Bond GR, Huxley P. 2001. Helping people with severe mental illness to obtain work: systematic review. *BMJ* 322: 204-209.
- Curtis J. 2003. Employment and disability in the United Kingdom: An outline of recent legislative and policy changes. *Work* 20: 45-51.
- Dafoe WA, Cupper L. 1995. Vocational considerations and return to work. *Physical Medicine and Rehabilitation Clinics of North America* 6: 191-204.
- de Buck PDM, Schoones JW, Allaire SH, Vliet Vlieland TPM. 2002. Vocational rehabilitation in patients with chronic rheumatic diseases: A systematic literature review. *Seminars in Arthritis and Rheumatism* 32: 196-203.
- de Gaudemaris R. 2000. Clinical issues: return to work and public safety. *Occupational Medicine: State of the Art Reviews* 15: 223-230.
- Devereux J. 2003. Work-related stress as a risk factor for WMSDs: implications for ergonomics interventions. In *Contemporary Ergonomics 2003* (Ed. McCabe PT): 59-64, Taylor & Francis, London.
- DH. 1999. *National Service Framework for mental health: modern standards and service models*. Department of Health, London.

- DH. 2000. *National Service Framework for coronary heart disease: modern standards and service models*. Department of Health, London.
- DH. 2002. *Mental health and employment in the NHS*. London, Department of Health Publications.
- Di Fabio RP. 1995. Efficacy of comprehensive rehabilitation programs and back school for patients with low back pain: A meta-analysis. *Physical Therapy* 75: 865-878.
- Dinnes J, Kleijnen J, Leitner M, Thompson D. 1999. Cardiac rehabilitation. *Quality in Health Care* 8: 65-71.
- Donker FJS. 2000. Cardiac rehabilitation: A review of current developments. *Clinical Psychology Review* 20: 923-943.
- Dusseldorp E, Van Elderen T, Maes S, Meulman J, Kraaij V. 1999. A meta-analysis of psychoeducational programs for coronary heart disease patients. *Health Psychology* 18: 506-519.
- DWP. 2002. *Pathways to work: helping people into employment*. TSO, Norwich.
- DWP. 2003. *Pathways to work: helping people into employment - the Government's response and action plan*. TSO, Norwich.
- EEF. 2004. *Fit for work: the complete guide to managing sickness absence and rehabilitation*. EEF, London [www.eef.org.uk](http://www.eef.org.uk).
- Elders LAM, van der Beek AJ, Burdorf A. 2000. Return to work after sickness absence due to back disorders - a systematic review on intervention strategies. *International Archives of Occupational and Environmental Health* 73: 339-348.
- Feuerstein M, Zastowny TR. 1999. Occupational rehabilitation: Multidisciplinary management of work-related musculoskeletal pain and disability. In *Psychological approaches to pain management. A practitioners' handbook* (Ed. Gatchel RJ, Turk DC): 458-485, The Guilford Press, London.
- Fischhoff B, Wessely S. 2003. Managing patients with inexplicable health problems. *BMJ* 326: 595-597.
- Frank J, Sinclair S, Hogg-Johnson S, Shannon H, Bombardier C, Beaton D, Cole D. 1998. Preventing disability from work-related low-back pain. New evidence gives new hope - if we can just get all the players onside. *Canadian Medical Association Journal* 158: 1625-1631.
- Frank JW, Brooker A-S, DeMaio SE, Kerr MS, Maetzel A, Shannon HS, Sullivan TJ, Norman RW, Wells RP. 1996a. Disability resulting from occupational low back pain. Part II: What do we know about secondary prevention? A review of the scientific evidence on prevention after disability begins. *Spine* 21: 2918-2929.
- Frank JW, Kerr MS, Brooker AS, DeMaio SE, Maetzel A, Shannon HS, Norman RW, Sullivan TJ, Wells RP. 1996b. Disability resulting from occupational low back pain: Part 1: what do we know about primary prevention? A review of the scientific evidence on prevention before disability begins. *Spine* 21: 2908-2917.
- Franklin BA, Bonzheim K, Gordon S, Timmis GC. 1998. Rehabilitation of cardiac patients in the twenty-first century: Changing paradigms and perceptions. *Journal of Sports Sciences* 16: S57-S70.
- Gardiner J. 1997. *Bridges from benefit to work: a review*. Joseph Rowntree Foundation, York: [www.jrf.org.uk/knowledge/findings/socialpolicy/sp130.asp](http://www.jrf.org.uk/knowledge/findings/socialpolicy/sp130.asp).
- Ghates LB. 2000. Workplace accommodation as a social process. *J Occup Rehab* 10: 85-97.
- Giannuzzi P, Saner H, Björnstad H, Fioretti P, Mendes M, Cohen-Solal A, Dugmore L, Hambrecht R, Hellemans I, McGee H, Perk J, Vanhees L, Veress G. 2003. Secondary prevention through cardiac



- rehabilitation. Position paper of the working group on cardiac rehabilitation and exercise physiology of the European Society of Cardiology. *European Heart Journal* 24: 1273-1278.
- Gibson PG, Powell H, Coughlan J, Wilson AJ, Abramson M, Haywood P, Bauman A, Hensley MJ, Walters EH. 2003. Self-management education and regular practitioner review for adults with asthma (Cochrane Review). In *The Cochrane Library, Issue 1 Update Software*, Oxford.
- Gohlke H, Gohlke-Bärwolf C. 1998. Cardiac rehabilitation. *European Heart Journal* 19: 1004-1010.
- Grove B. 1999. Mental health and employment: shaping a new agenda. *J Mental Health* 8: 131-140.
- Guzmán J, Esmail R, Karjalainen K, Malmivaara A, Irvin E, Bombardier C. 2001. Multidisciplinary rehabilitation for chronic low back pain: systematic review. *BMJ* 322: 1511-1516.
- Habeck RV, Hunt HA, VanTol B. 1998. Workplace factors associated with preventing and managing work disability. *Rehabilitation Counselling Bulletin* 42: 98-143.
- Holloway E, Ram FSF. 2003. Breathing exercises for asthma (Cochrane Review). In *The Cochrane Library, Issue 4* John Wiley & Sons, Ltd, Chichester.
- Horgan J, Bethell H, Carson P, Davidson C, Julian D, Mayou RA, Nagle R. 1992. Working party report on cardiac rehabilitation. *British Heart Journal* 67: 412-418.
- HSC. 2000. *Revitalising Health and Safety. Strategy Statement*. Department of the Environment, Transport and the Regions, London.
- HSE. 2000. *Securing health together*. HSE Books, Sudbury.
- HSE. 2004. *An employers and managers guide to managing sickness and recovery of health at work*. Draft document.
- Huibers MJH, Beurskens AJHM, Bleijenberg G, van Schayck CP. 2003. The effectiveness of psychosocial interventions delivered by general practitioners (Cochrane Review). In *The Cochrane Library, Issue 4* John Wiley & Sons, Ltd, Chichester.
- Hunt HA, Habeck RV, Van Tol B, Scully SM. 1993. *Disability prevention among Michigan employers. Upjohn Institute Technical Report No. 93-004*. W, Kalamazoo, MI.
- Isernhagen SJ. 2000. Primary and secondary therapy for the acute musculoskeletal disorder. In *Occupational musculoskeletal disorders: function, outcomes & evidence* (Ed. Mayer TG, Gatchel RJ, Polatin PB) : 323-338, Lippincott Williams & Wilkins, Philadelphia.
- IUA/ABI. 1999. *Second bodily injury study. Code of best practice on rehabilitation, early intervention and medical treatment in personal injury claims*. International Underwriters Association and Association of British Insurers, London.
- James P, Cunningham I, Dibben P. 2002. Absence management and the issues of job retention and return to work. *Human Resource Management Journal* 12: 82-94.
- James P, Cunningham I, Dibben P. 2003. *Job retention and vocational rehabilitation: The development and evaluation of a conceptual framework. Research Report 106*. Her Majesty's Stationery Office, London.
- Jolliffe JA, Rees K, Taylor RS, Thompson D, Oldridge N, Ebrahim S. 2003. Exercise-based rehabilitation for coronary heart disease (Cochrane Review). In *The Cochrane Library, Issue 4* John Wiley & Sons, Ltd, Chichester.
- Karjalainen K, Malmivaara A, van Tulder M, Roine R, Jauhiainen M, Hurri H, Koes B. 2000. Multidisciplinary biopsychosocial rehabilitation for subacute low back pain among working age adults (Cochrane review). In *The Cochrane Library, Issue 3 Update Software*, Oxford.

- Karjalainen K, Malmivaara A, van Tulder M, Roine R, Jauhiainen M, Hurri H, Koes B. 2003a. Biopsychosocial rehabilitation for upper limb repetitive strain injuries in working age adults (Cochrane Review). In *The Cochrane Library, Issue 3 Update Software*, Oxford.
- Karjalainen K, Malmivaara A, van Tulder M, Roine R, Jauhiainen M, Hurri H, Koes B. 2003b. Multidisciplinary biopsychosocial rehabilitation for neck and shoulder pain among working age adults (Cochrane Review). In *The Cochrane Library, Issue 3 Update Software*, Oxford.
- Karjalainen K, Malmivaara A, van Tulder M, Roine R, Jauhiainen M, Hurri H, Koes B. 2003c. Multidisciplinary rehabilitation for fibromyalgia and musculoskeletal pain in working age adults (Cochrane Review). In *The Cochrane Library, Issue 3 Update Software*, Oxford.
- Karsh BT, Moro FBP, Smith MJ. 2001. The efficacy of workplace ergonomic interventions to control musculoskeletal disorders: a critical analysis of the peer-reviewed literature. *Theor. Issues in Ergon. Sci.* 2: 23-96.
- Konijnenberg HS, de Wilde NS, Gerritsen AA, van Tulder MW, de Vet HC. 2001. Conservative treatment for repetitive strain injury. *Scand J Work Environ Health* 27: 299-310.
- Krause N, Dasinger LK, Neuhauser F. 1998. Modified work and return to work: a review of the literature. *J Occup Rehabil* 8: 113-139.
- Kuorinka I, Forcier L. 1995. *Work related musculoskeletal disorders (WMSDs): a reference book for prevention*. Taylor & Francis, London.
- Lacasse Y, Brosseau L, Milne S, Martin S, Wong E, Guyatt GH, Goldstein RS, White J. 2003. Pulmonary rehabilitation for chronic obstructive pulmonary disease (Cochrane Review). In *The Cochrane Library, Issue 4* John Wiley & Sons, Ltd, Chichester.
- Lusk SL. 1995. Returning to work following myocardial infarction. *AAOHN* 43: 155-158.
- Mair A. 1972. *Medical rehabilitation: the pattern for the future*. Her Majesty's Stationery Office (Scottish Home and Health Department), London.
- Mannerkorpi K, Iversen MD. 2003. Physical exercise in fibromyalgia and related syndromes. *Best Practice & Research Clinical Rheumatology* 17: 629-647.
- Manning C, White PD. 1995. Attitudes of employers to the mentally ill. *Psychiatric Bulletin* 19: 541-543.
- Marks L, McLellan DL, Langton-Hewer R, Ward C. 2000. *Medical rehabilitation for people with physical and complex disabilities*. Royal College of Physicians, London.
- McAlister FA, Lawson FME, Teo KK, Armstrong PW. 2001. Randomised trials of secondary prevention programmes in coronary heart disease: systematic review. *BMJ* 323: 957-962.
- McClune T, Burton AK, Waddell G. 2002. Whiplash associated disorders: a review of the literature to guide patient information and advice. *Emergency Medicine Journal* 19: 499-506.
- Mental Health Foundation. 2002. *Out at work: A survey of the experiences of people with mental health problems within the workplace*. The Mental Health Foundation, London.
- Menz FE, Botterbusch K, HagenFoley D, Johnson PT. 2003. *Achieving quality outcomes through community-based rehabilitation programmes: the results are in*. Presented to NISH National Training Conference, April 7, Denver, Colorado.
- Mindout. 2002. *Working minds toolkit: a practical resource to promote good workplace practice on mental health*. mindOut for mental health, [www.mindout.net](http://www.mindout.net).
- Mindout. 2003. *Line managers' resource: a practical guide to managing and supporting mental health in the workplace*. mindOut for mental health, [www.mindout.net](http://www.mindout.net).

- Mital A, Mital A. 2002. Returning coronary heart disease patients to work: A modified perspective. *Journal of Occupational Rehabilitation* 12: 31-42.
- Monninkhof EM, van der Valk PDLPM, van der Palen J, van Herwaarden CLA, Partridge MR, Walters EH, Zielhuis GA. 2003. Self-management education for chronic obstructive pulmonary disease (Cochrane Review). In *The Cochrane Library, Issue 4* John Wiley & Sons, Ltd, Chichester.
- Monpere C. 1998. Cardiac Rehabilitation. *Dis Manage Health Outcomes* 4: 143-156.
- Morley S, Eccleston C, Williams A. 1999. Systematic review and meta-analysis of randomized controlled trials of cognitive behaviour therapy and behaviour therapy for chronic pain in adults, excluding headache. *Pain* 80: 1-13.
- National Research Council. 2001. *Musculoskeletal disorders and the workplace, Prepublication Copy*. National Academy Press, Washington D.C.
- NHS Centre for Reviews. 1998. Cardiac rehabilitation. *Effective Health Care* 4: 1-12.
- NIDMAR. 2000. *Code of practice for disability management: describing effective benchmarks for the creation of workplace-based disability management programs*. National Institute of Disability Management and Research, Ottawa, Canada.
- Nocon A, Baldwin S. 1998. *Trends in rehabilitation policy. a review of the literature*. Kings Fund, London.
- Nordqvist C, Holmqvist C, Alexanderson K. 2003. Views of laypersons on the role employers play in return to work when sick-listed. *Journal of Occupational Rehabilitation* 13: 11-20.
- OECD. 2003. *Transforming disability into ability. Policies to promote work and income security for disabled people*. The Organisation for Economic Co-operation and Development, Paris.
- Olsheski JA, Rosenthal DA, Hamilton M. 2002. Disability management and psychosocial rehabilitation: Considerations for integration. *Work* 19: 63-70.
- Page LA, Wessely S. 2003. Medically unexplained symptoms: exacerbating factors in the doctor-patient encounter. *Journal of the Royal Society of Medicine* 96: 223-227.
- Piercy L. 1956. *Report of the Committee of Inquiry on the rehabilitation training and resettlement of disabled persons. Cmd 9883*. Her Majesty's Stationery Office, London.
- Piligian G, Herbert R, Hearn M, Dropkin J, Landsbergis P, Cherniack M. 2000. Evaluation and management of chronic work-related musculoskeletal disorders of the distal upper extremity. *American Journal of Industrial Medicine* 37: 75-93.
- Posner A, Ng M, Hammond J, Shepherd G. 1996. *Working it out*. Pavilion Publishing, Brighton.
- Pransky G, Robertson MM, Moon SD. 2002. Stress and work-related upper extremity disorders: implications for prevention and management. *American Journal of Industrial Medicine* 41: 443-455.
- Riddell S. 2002. *Work preparation and vocational rehabilitation: a literature review*. Strathclyde Centre for Disability Research, University of Glasgow, Glasgow.
- Riipinen M, Hurri H, Alaranta H. 1994. Evaluating the outcome of vocational rehabilitation. *Scand J Rehab Med* 26: 103-112.
- Rodgers M, Fayter D, Richardson G, Ritchie G, Sowden A, Lewin R. 2004. *The effects of psychosocial interventions in cancer and heart disease: a review of systematic reviews and review of economic evaluations*. University of York. (Report to the UK Department of Health), York.
- Royal College of Physicians. 1986. Physical disability services in 1986 and beyond. *J Royal Coll Phys (London)* 20: 160-194.

- Royal College of Psychiatrists. 2002. *Employment opportunities and psychiatric disability. Council Report CR111*. Royal College of Psychiatrists, London.
- Scheer SJ, Watanabe TK, Radack KI. 1997. Randomized controlled trials in industrial low back pain. Part 3 subacute/chronic interventions. *Arch Phys Med Rehabil* 78: 414-423.
- Schneider J. 1998. Work interventions in mental health care: some arguments and recent evidence. *J Mental Health* 7: 81-94.
- Schneider J, Heyman A, Turton N. 2002. *Occupational outcomes: from evidence to implementation. (An expert topic paper commissioned by the Department of Health)*. Centre for Applied Social Studies, University of Durham, Durham.
- Schneider J, Heyman A, Turton N. 2003. *Employment for people with mental health problems: Expert briefing*. National Institute for Mental Health in England, [www.nimhe.org.uk/whatsapp/item\\_display\\_publications.asp?id=324](http://www.nimhe.org.uk/whatsapp/item_display_publications.asp?id=324).
- Schonstein E, Kenny D, Keating J, Koes B, Herbert RD. 2003. Physical conditioning programs for workers with back and neck pain: A Cochrane systematic review. *Spine* 28: E391-E395.
- Selander J, Marnetoft S-U, Bergroth A, Ekholm J. 2002. Return to work following vocational rehabilitation for neck, back and shoulder problems: risk factors reviewed. *Disability and Rehabilitation* 24: 704-712.
- Shaw WS, Feuerstein M, Huang GD. 2002. Secondary prevention and the workplace. In *New avenues for the prevention of chronic musculoskeletal pain and disability. Pain research and clinical management. Vol 12* (Ed. Linton SJ) : 215-235, Elsevier Science B.V., Amsterdam.
- Shaw WS, Robertson MM, McLellan RK. 2003. Employee perspectives on the role of supervisors to prevent workplace disability after injuries. *J Occup Rehabil* 13: 129-142.
- Shrey DE, Mital A. 2000. Accelerating the return to work (RTW) chances of coronary heart disease (CHD) patients: part 2 - development and validation of a vocational rehabilitation programme. *Disability and Rehabilitation* 22: 621-626.
- Sinclair SJ, Hogg-Johnson S. 2002. Early rehabilitation: the Ontario experience. In *New avenues for the prevention of chronic musculoskeletal pain and disability - (Pain research and Clinical Management Vol 12)* (Ed. Linton SJ) : 259-268, Elsevier Science, Amsterdam.
- Spurgeon A. 2002. *Managing attendance at work: an evidence-based review*. British Occupational Health Research Foundation, London.
- Staal JB, Hlobil H, van Tulder MW, Köke AJA, Smid T, van Mechelen W. 2002. Return-to-work interventions for low back pain. A descriptive review of contents and concepts of working mechanisms. *Sports Med* 32: 251-267.
- Staal JB, Hlobil H, van Tulder MW, Waddell G, Burton AK, Koes BW, van Mechelen W. 2003. Occupational health guidelines for the management of low back pain: an international comparison. *Occupational and Environmental Medicine* 60: 618-626.
- Teasell RW, Harth M. 1996. Functional restoration: returning patients with chronic low back pain to work - revolution or fad? *Spine* 21: 844-847.
- Thomas T, Secker J, Grove B. 2002. *The development of a new type of partnership: promoting prevention and retention issues for employees with mental health problems*. Kings College London, London.
- Thompson DR. 1995. Cardiac rehabilitation: How can it be improved? *Journal of Psychosomatic Research* 39: 519-523.

- Thompson DR, Bowman GS, Kitson AL, de Bono DP, Hopkins A. 1996. Cardiac rehabilitation in the United Kingdom: guidelines and audit standards. *Heart* 75: 89-93.
- Thomson L, Neathey F, Rick J. 2003. *Best practice in rehabilitating employees following absence due to work-related stress. HSE Research Report 138.* HSE Books, Sudbury.
- Thornton P. 1998. *International research project on job retention and return to work strategies for disabled workers.* International Labour Office, Geneva.
- Thornton P, Sainsbury R, Barnes H. 1997. *Helping disabled people to work: a cross-national study of social security and employment provisions. Social Security Advisory Committee Research Paper 8.* The Stationery Office, London.
- Thornton P, Zeitzer I, Bruyère SM, Golden TP, Houtenville AJ. 2003. What works and looking ahead: A comparative study of UK and US policies and practices facilitating return to work for people with disabilities. In *UK/US Pathways to work in the 21st century. Seminar and workshop* Department for Work and Pensions, London.
- Tomlinson G. 1943. *Report of an inter-departmental committee on the rehabilitation and resettlement of disabled persons.* Her Majesty's Stationery Office, London.
- TUC. 2000. *Consultation document on rehabilitation. Getting better at getting back.* Trades Union Congress, London.
- TUC. 2002a. *Rehabilitation and retention - what works is what matters.* Trades Union Congress, London.
- TUC. 2002b. *Rehabilitation and retention: the workplace view.* Trades Union Congress, London.
- Tunbridge R. 1972. *Rehabilitation. A report of a sub-committee of the Standing Medical Advisory Committee.* Her Majesty's Stationery Office, London.
- Turk DC. 2002. Clinical effectiveness and cost-effectiveness of treatments for patients with chronic pain. *The Clinical Journal of Pain* 18: 355-365.
- UNUM. 2001. *Towards a better understanding of your sickness absence costs.* UNUM Limited, Dorking.
- van der Klink JJL, van Dijk FJH. 2003. Dutch practice guidelines for managing adjustment disorders in occupational and primary health care. *Scand J Work Environ Health* 29: 478-487.
- van Tulder M, Koes B. 2002. Low back pain and sciatica (chronic). *Clinical Evidence* 7: 1032-1048.
- van Tulder MW, Goosens M, Hoving J. 2000. Nonsurgical treatment of chronic neck pain. In *Neck and back pain: the scientific evidence of cause, diagnosis, and treatment* (Ed. Nachemson AL, Jonsson E): 339-354, Lippincott Williams & Wilkins, Philadelphia.
- Verhagen AP, Scholten-Peeters GGM, de Brie RA, Bierma-Zeinstra SMA. 2004. Conservative treatment for whiplash (Cochrane Review). In *The Cochrane Library, Issue 1* John Wiley & Sons Ltd, Chichester, UK.
- Waddell G, Aylward M, Sawney P. 2002. *Back pain, incapacity for work and social security benefits: an international literature review and analysis.* The Royal Society of Medicine Press Limited, London.
- Waddell G, Burton AK. 2000. *Occupational health guidelines for the management of low back pain at work.* Faculty of Occupational Medicine, London [www.facocmed.ac.uk](http://www.facocmed.ac.uk).
- Waddell G, Watson PJ. 2004. Rehabilitation. In *The Back Pain Revolution (2nd Edition)* (Ed. Waddell G) Churchill Livingstone, Edinburgh.

Wenger NK, Froelicher ES, Smith LK. 1995. *Cardiac rehabilitation as secondary prevention. Clinical Practice Guideline. Quick Reference Guide for Clinicians, No 17*. Department of Health and Human Services, Public Health Service, Agency for Health Care Policy and Research and National Heart, Lung, and Blood Institute. AHCPR Publications No. 96-0672, Rockville.

Wessely S, Hotopf M. 1999. Is fibromyalgia a distinct clinical entity? Historical and epidemiological evidence. *Baillière's Clinical Rheumatology* 13: 427-436.

Whiting P, Bagnall AM, Sowden AJ, Cornell JE, Mulrow CD, Ramirez G. 2001. Interventions for the treatment and management of chronic fatigue syndrome: a systematic review. *JAMA* 286: 1360-1368.

WHO. 1995. *Global strategy on occupational health for all: the way to health at work*. World Health Organisation, Geneva  
[www.who.int/och/OCHweb/OCHweb/OSHpages/GlobalStrategy/GlobalStrategy.htm](http://www.who.int/och/OCHweb/OCHweb/OSHpages/GlobalStrategy/GlobalStrategy.htm).

Womack L. 2003. Cardiac rehabilitation secondary prevention programs. *Clin Sports Med* 22: 135-160.

Wright DJ. 1999. Cardiac rehabilitation: are the potential benefits being realized? *Hospital Medicine* 60: 119-122.