



British Geriatrics Society

Rehabilitation of Older People

Best practice guide 1.4 (reviewed May 2009)

Introduction

Rehabilitation is a core element in the practice of medicine for older people involving multidisciplinary team working – crucially physiotherapists, occupational therapists and often (dependent on patient need) speech and language therapists, psychologists or others.[1]. This document focuses upon evidence of effectiveness which may be utilised to assist with the development of rehabilitation services for older people. The guide primarily addresses the evidence base around rehabilitation for patients with physical health needs. Many older people who require rehabilitation may have both physical and mental health issues; the advice in this paper is applicable to those patients who may be suffering from conditions such as dementia but whose main rehabilitative need is for a physical health problem. This guidance does not address the specific rehabilitative needs of patients who have solely mental health problems such as dementia or depression.

Rehabilitation - what is it?

A working definition of rehabilitation is “the reduction of functional deficits without necessarily reversing the underlying biology of the disease” [2]. Its scope is wide and includes acute and chronic perspectives. For example, active treatment to reduce the severity of the underlying disease would be included (e.g. treatment of cardiac failure or pain relief in an arthritic knee), as would adapting the environment to the needs of a disabled person.

The definition embodies the concepts of:

- • **Impairment** - the specific deficit
- • **Activity limitation (formerly ‘disability’)** - the resultant limitation in functional capacity
- • **Participation restriction (formerly ‘handicap’)** – the impact of this limitation on quality of life experienced

Comprehensive rehabilitation needs to address a number of different levels which may be contributing to loss of function.

- • The damaged system
- • Other body systems
- • Psychological attitudes
- • Immediate material environment e.g. clothes
- • The near environment e.g. housing / equipment
- • Distant environment e.g. shops, social outlets
- • Social support networks.

This interfaces neatly with broader concepts within Geriatric Medicine including the Comprehensive Geriatric Assessment (see below).

It is clear that a multi-professional approach is required to intervene at all these levels. However rehabilitation can also be more focused, for example, at specific therapy to reduce the *impairment* associated with a painful shoulder.

Many of the skills of rehabilitation apply in a *generic* manner, and arise from attitudes of the team members towards their patients. The evidence is strongest for specific interventions in diseases such as stroke and post-fracture (see below). However, the principles can be extrapolated to a wider group of conditions and are similar in different age-groups, although the multiple needs of older patients, coupled with background frailty, may necessitate a lengthier and more complex process than in similarly impaired younger people.

The stages of a rehabilitative process are:

- • Assessment: identification, analysis and identification of problems
- • Planning: analysing the problem(s) and setting goals

- • Treatment: intervention to reduce disability and handicap
- • Evaluation: check effectiveness of interventions and review (i.e. reassessment)
- • Care: intervention to alleviate consequences of disability
- • Advice: coping strategies for patients and carers

Roles for the doctor within rehabilitation include identifying or confirming a diagnosis, estimating prognosis, and identifying barriers to rehabilitation which are impeding the process e.g. pain, depression, malnutrition etc.

Evidence of effectiveness of comprehensive geriatric assessment (CGA)

Definition

The Comprehensive Geriatric Assessment addresses the diversity and complexity of older peoples needs. This encompasses their physical, social, psychological, economic, functional and environmental requirements. Consequently, problems in one or more areas can be tackled promptly and the appropriate management measures implemented. CGA is the foundation for delivering quality care for older people.

Evidence of effectiveness of CGA

A 1993 meta-analysis of 28 controlled trials included 4,929 subjects allocated to one of five types of CGA and 4,912 controls. This concluded that CGA programmes linking geriatric evaluation with strong long-term management are effective in improving survival and function in elderly persons [3].

More recent data continues to support the evidence base for the efficacy of the CGA in Geriatric practice [4][5]. There is adequate data from several sources indicating benefits relating to functional status, quality of life, length of hospital stay and rates of readmission and institutionalisation. There remains, however, no apparent influence on survival as demonstrated by a meta-analysis of nine studies in 2004 [6].

CGA has been shown to be effective when coupled with multi-disciplinary intervention. Examples include: after a visit to the Emergency Department [7]; post-discharge from hospital [8]; and after a fall in the community [9].

Style and location of rehabilitation

Having identified impairments and disabilities through comprehensive assessment, there are alternative ways of delivering care. Typically, a generic approach, entailing assessment, rehabilitation, and reassessment is carried out in the in-patient geriatric wards, and is effective [4]. Alternatives to this include disease-specific approaches (such as in stroke and fractured neck of femur) and community-based schemes. These may be complementary, and their availability should depend on local factors such as geography, demographics and the healthcare infrastructure. Evidence indicates that rehabilitation delivered in the community hospital (with access to all members of the multidisciplinary team- nursing, medical and professions allied to medicine) achieves better functional improvement over a similar length of time at equivalent cost to the District General Hospital [10].

The rapid expansion of Intermediate care services has provided varied opportunities for community-based rehabilitation. These reduce time spent in the DGH, moving the patient either nearer home or indeed back home, with the potential for improved morale, increased visitors, and reduced hazards from remaining in hospital. Research evidence however shows no benefit from this approach, although now widely adopted through the NHS. Hospital-at-home results in savings of around 6 days in hospital, but overall length of care is prolonged, and functional recovery and total cost are similar [11]. Rehabilitation in residential care also prolongs the period of care with no additional benefit [12]. See [Intermediate care – Guidance for Commissioners and Providers of Health and Social Care](#).

Day Hospitals provide an alternative to home-based rehabilitation with similar outcomes, but at greater cost [13]. One recent study has shown the superiority of home-based rehabilitation with lower readmission rates, achieved with lower intensity rehabilitation [14] [See Geriatric day Hospitals](#)

Physical rehabilitation in the context of long-term care can improve physical and mental state, and can be of benefit to those with dementia [15]. Frail subjects may benefit from individualised programmes. However the benefits may require long-term programmes.

Intensity of rehabilitation

Increased intensity of rehabilitation appears beneficial following stroke [16], and there are national averages for the duration of daily therapy derived from the Sentinel Stroke audits which can be used as benchmarks. Seven day rehabilitation has face validity to hasten recovery, although evidence is anecdotal. There is growing use of rehabilitation assistants who can reinforce therapeutic regimes, and assist the delivery of therapy over the weekend. Increased intensity of therapy following fractured femur and following discharge may not be beneficial [17].

Evidence that rehabilitation after stroke improves outcome

There is a great wealth of evidence demonstrating the benefits of rehabilitation on the many different facets of stroke medicine.

In the United Kingdom, guidelines for the management of stroke patients have been produced by the Royal College of Physicians [18] and the Scottish Intercollegiate Guidelines Network [19]. They address aspects of both acute and rehabilitation stroke medicine. The Cochrane Database describes the well-established benefits of Stroke Units [20,21]. In their review of 23 trials, Stroke Units were demonstrated to benefit mortality, functional outcomes and independence at 1 year post-stroke. This was achieved without longer in-patient stays.

Other Cochrane reviews have examined the following areas:

- • Early Supported Discharge for selected patients can reduce length of stay, and results in lower admission rates to institutional care, but there is no clear benefit to functional outcomes [11].
- • There is some evidence for the use of therapy-based rehabilitation for stroke patients in their home environment, with improvements in independence for activities of daily living [22], and reduced the risk of deterioration in ability [23].

Evidence that rehabilitation improves outcome after fractured neck femur

In the United Kingdom the most comprehensive guidelines for rehabilitation of patients with fractured neck of femur are from the Scottish Intercollegiate Guidelines Network [24], and are also covered by the “Blue Book” – joint guidelines on the care of patients with fragility fractures from the British Orthopaedic Association and the British Geriatrics Society. ([provide link](#)).

A Report by the Royal College of Physicians of London as far back as 1989 [25] highlighted the need for early review by a geriatrician and for multi-professional discharge planning. The years since have seen the development of orthogeriatric units although there remains much diversity in how individual units operate. The evidence to support this type of initiative is, rather less than exists for similar schemes especially stroke units.

A Cochrane review examined the efficacy of multi-professional rehabilitation: mortality and institutional care rates were less in those patients receiving co-ordinated inpatient rehabilitation, but the results did not reach statistical significance [26]. Rehabilitation and weight-bearing should begin immediately after surgical fixation, and continue ideally until previous strength has been achieved. Nutritional support, analgesia, thromboprophylaxis, and possibly transfusion are all important.

Routine use of standard measures of patient outcomes

Good Practice Guidelines consistently recommend that all patients involved in rehabilitation programmes must be systematically evaluated at key stages using well-validated standardised measures [27] which embody aspects of impairment (often performed by physiotherapists), and activity limitation (e.g. Barthel and Mental Test Scores) Measures of user satisfaction and involvement are also important, as well as the views of carers.

Summary and conclusions

There is now evidence of the effectiveness of rehabilitation in several well-defined and important clinical areas relevant to older people. Health commissioners must be urged to provide resources for rehabilitation services. Further research to define the optimal intensity of rehabilitation, and to identify patients who will benefit from prolonged therapy would be helpful.

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