

Rehabilitation medicine

Dr John P McCann MD FRCP FRCPI Consultant in rehabilitation medicine

Dr Christopher W Roy MBChB FRCP(Glasg) Retired consultant rehabilitation medicine

Professor Christopher D Ward MD FRCP Retired professor of rehabilitation medicine

1 Description of the specialty

Consultants in rehabilitation medicine (RM) serve people with complex disabilities arising from conditions such as spinal and head injuries, stroke, multiple sclerosis (MS), musculoskeletal disorders, congenital or acquired limb loss, muscle disorders, cerebral palsy and spina bifida. Roles include:

- confirming diagnoses and prognoses
- preventing and treating symptoms and complications
- contributing to life decisions
- providing information, support and counselling for patients, families and carers.

Most RM consultants lead and coordinate a multidisciplinary team (MDT). Although the specialty was originally developed for disabled people of working age,^{1,2} RM is now relevant to people of all ages.

The World Health Organization's (WHO) *International classification of functioning, disability and health*³ provides a conceptual framework. This recognises the social and physical environment as a target for interventions: for example, someone complaining of spinal pain may benefit from different seating arrangements, drugs or medical treatments. The clinical skills of RM specialists are essential for the effective use of many assistive technologies.

Rehabilitation programmes are important in acute and non-acute conditions. For example, RM consultants help individuals with MS to manage their own disability and prevent secondary complications, while providing treatment as required.

The British Society of Rehabilitation Medicine (BSRM) (www.bsrm.co.uk) provides further information on the specialty.

2 Organisation of the service and patterns of referral

Rehabilitation medicine is a consultant-led service that works closely with MDTs. Consultants have responsibility for inpatients in neurological rehabilitation units but also consult in stroke units, other wards (including pre-amputation) and multidisciplinary outpatient services. Rehabilitation of people with spinal cord injuries occurs through supra-regional centres. Specialist neurological rehabilitation centres accept the most complex patients. Rehabilitation medicine has important relationships with trauma, orthopaedics, neurology, neurosurgery, vascular surgery, acute medicine and palliative medicine.⁴ RM has a central role in the early and ongoing management of patients within the major trauma networks.

Many consultants work in the community. In England, recent drivers for such services include the *National service framework (NSF) for long-term conditions*⁵ and the Department of Health's *Transforming community services* programme⁶ and *Liberating the NHS* white paper.⁷ Community work entails frequent interactions with primary care, psychiatry, urology, palliative medicine and many other services. Most RM consultants carry out home visits or review people in nursing homes.

Referrals come from GPs or consultant colleagues. In addition, professions allied to medicine trigger referrals.

3 Working with patients: patient-centred care

Patient-centred care is central to RM, which involves meetings with disabled individuals, family members

and others. The ability to facilitate these meetings is an important consultant skill. Communications between professionals and patients are highly developed and include evaluations of rehabilitation goals. Consultants in RM use educational approaches to help patients and families, often raising their expectations of potential achievement, and to support self-management. Patient support groups can be a major help in rehabilitation. Consultants in RM typically have close relationships with local groups, and many work with national patient or carer-led organisations.

Rehabilitation must always consider other people important to the patient. The separate needs of carers must be appreciated, but balancing the interests of the individual patient with those of others can pose ethical challenges when the disabled individual has reduced capacity. An important challenge for RM consultants is to understand the needs of people from different religious, cultural and ethnic backgrounds. RM facilitates innovative approaches, with a great deal of expertise on cultural differences within the specialty; however, the cultural responsiveness of rehabilitation services needs further development.

4 Interspecialty and interdisciplinary liaison

Most aspects of RM require an MDT. Evidence for a team approach comes from research on acquired brain injury and MS.^{8,9} The key to MDT working is that professional roles are flexible, with the needs of a disabled individual superseding disciplinary boundaries. Interspecialty links are strong throughout rehabilitation, and links with primary care and community services are particularly important during community reintegration. Social services work closely with RM teams, alongside education, employment, housing and legal services, and voluntary agencies.

Neurology and neurosurgery interact closely with RM in managing long-term neurological conditions. Vascular surgery interacts specifically with RM for amputations. RM works closely with orthopaedics and neurosurgery in the management of patients following severe trauma. Other joint work with RM consultants includes:

- managing handover of young disabled people from paediatrics to RM
- managing spasticity in collaboration with geriatricians

- working with surgeons to plan procedures and postoperative rehabilitation following spinal or joint surgery and tenotomies
- sharing care with gastroenterologists during insertion of feeding tubes
- obtaining support from otorhinolaryngologists in the management of tracheotomy
- working with anaesthetists in the management of complex pain
- collaborating with psychiatrists for patients with neurological conditions, including traumatic brain injury, functional disorders and Huntington's disease
- working with urologists in the management of continence
- working with palliative medicine consultants in the management of people with rapidly progressive neurological conditions (eg motor neuron disease).

In the community, RM makes rehabilitation expertise accessible to disabled people and provides an interface for specialist community professionals, as advocated in *Supporting people with long-term conditions*.¹⁰ Ways of working with GPs are constantly evolving, as recommended in a joint statement by the Royal College of Physicians (RCP) and the Royal College of General Practitioners.¹¹ General practitioners with a special interest (GPwSIs) in RM participate in many stages of rehabilitation.

5 Delivering a high-quality service

What is a high-quality service?

A high-quality RM service provides equitable access to specialist services for all, including those with the most severe disabilities. The services described here must be available within reasonable distance of a patient's home rather than exclusively in specialist centres.

Home-based intervention is therefore essential.

Inpatient and outpatient services must be available for those with brain or spinal cord injury, other acute or progressive neurological conditions, limb deficiencies and rarer disabilities. Stroke rehabilitation should be provided either by the RM service or with RM consultant input. A consultant in RM must be involved in providing complex assistive technologies, including environmental controls and special seating.

RM services must be based within a well-managed, adequately resourced MDT. Factors that determine

service quality include committed management, involvement of service users and regular audit.

Inpatient unit

The BSRM recommends 45–65 beds per million population for specialist RM, depending on local service patterns for stroke and rehabilitation of older people.

- The minimum size of a viable inpatient unit should be 20 beds, which should be located together to foster rehabilitation nursing expertise.
- Space must be available for therapy, recreation, social activities, team meetings and case conferences.
- The unit requires immediate access to acute medical and surgical services, dietetics and enteral feeding services, and radiology and pathology services.
- Manual and powered wheelchairs must be available on the unit, and there must be access to specialist orthotics and wheelchair clinics.

Outpatient facilities

Most patients need access to the MDT, as well as medical clinics, so day assessments, case conferences and outreach visits are often required. The RM consultant will need access to services for:

- physiotherapy and hydrotherapy
- occupational therapy, including domestic facilities and workshops
- social services
- information technology (IT) equipment and software for patient use
- orthotics and prosthetics
- specialist wheelchairs and seating
- electronic assistive technology
- driving assessment and training
- counselling and psychology
- sexual and genetic counselling
- education and employment training
- vocational rehabilitation.

Work to maintain and improve the quality of care

The role of the RM consultant in leading service developments

The work of the RM consultant includes more service development than that of most other specialists, as they lead or contribute to the development of care pathways – for example, the current development of major trauma networks in England.

Consultants in RM make major contributions to productivity and quality (as exemplified in England

by the Quality, Innovation, Productivity and Prevention (QIPP) programme).¹² Respiratory medicine reduces hospital usage by using preventive interventions alongside general practice and community services, and by coordinating complex hospital discharges. Consultants in RM could play a larger role given the increased drive to bring cohesion to rehabilitation services.¹³

Consultants in RM focus on maintaining and regaining employment,¹⁴ contributing to the agenda of the interdepartmental strategy *Health, work and well-being*.¹⁵

Consultants in RM lead undergraduate and postgraduate teaching on disability and rehabilitation.

Education, training and continuing professional development (CPD)

The training curriculum for RM^{16,17} includes developing skills in the management of neurological and musculoskeletal disorders and comorbidities arising from multiple trauma or chronic immobilisation. Consultants must also have a thorough understanding of how individual and social behaviours influence disability. Such training overlaps with psychiatry, neurology and neuropsychology. Training must deliver high-level skills in communicating with individuals and groups, analysing complex situations and incorporating psychological elements in therapeutic interventions.

The BSRM organises an annual programme of scientific meetings, postgraduate courses and regional educational meetings. The scientific meetings of the Society for Research in Rehabilitation are another important element in CPD.

Clinical governance

Clinical governance raises specific issues for RM,¹⁸ including the vulnerability of people with physical and cognitive impairments and medical accountability in an environment in which consultant roles may be obscured by the multidisciplinary interagency context of RM.

Research

Evaluating complex interventions has been fundamental in rehabilitation research for the past two decades, particularly in the development of outcome measures.

Most evidence for the effectiveness of rehabilitation concerns stroke, but evidence is emerging in acquired brain injury, MS and community-oriented

rehabilitation.^{8,9,19,20} Gaps remain, however, and the academic base of RM needs further development. At present there are two professorial chairs in RM in the UK. A third is anticipated. There are a number of non-professorial academic posts as well.

Local management duties

RM consultants have a high and complex management workload: first, through involvement in service development; second, because RM consultants interface with a wide range of services including therapies, neurosciences and community services; and third, because responsibilities must be shared among small consultant teams.

Specialty and national guidelines

The BSRM is the principal focus for nationally based work; it regularly produces reports and guidelines.

The national clinical guidelines for rehabilitation following acquired brain injury,²¹ published jointly by the RCP and the BSRM, provide a comprehensive framework for the management of an important patient group. These evidence-based guidelines will continue to underpin the development of rehabilitation services. The BSRM has published standards for specialist inpatient and community rehabilitation services,²² amputee and prosthetic rehabilitation,²³ spinal cord injury,²⁴ use of botulinum toxin in spasticity²⁵ and vocational rehabilitation.²⁶

Guidelines published by the National Institute for Health and Care Excellence (NICE) on the management of MS in primary and secondary care²⁷ (which provide a framework for specialist services in MS, including aspects most frequently undertaken by RM consultants) and on rehabilitation after critical illness²⁸ are of central significance for the specialty.

The *National service framework for long-term conditions* (2005) specified a 10-year implementation programme.⁵ Rehabilitation medicine has key roles in the delivery of all of the NSF's Quality Requirements.

Specialty and national audit

The BSRM has led development of the standards outlined below. Most audit work is carried out locally, but the BSRM piloted a peer-review scheme. Guidelines published by the BSRM strongly influence local audit activity, and the BSRM is currently developing specialty-appropriate parameters for Payment by Results.²⁹

Quality standards and measures of the quality of specialist services

Much work has established measurable quality standards for RM.¹⁸ Two standards ratified by the RCP are:

- 1 For all patients entering a rehabilitation programme, a set of goals should be established and agreed between the team and the patient/family within a defined time from entry.
- 2 For all patients enrolled in a rehabilitation programme, at least one agreed outcome measure should be assessed on admission and discharge from the programme.

The BSRM has developed a 'basket' of approved outcome measures,³⁰ because no single outcome measure is appropriate for all types of rehabilitation. The Barthel Index and Functional Independence Measure are widely used. Goal attainment scoring is being explored as a patient-centred outcome measure.

6 Clinical work of consultants in rehabilitation medicine

How a consultant works in rehabilitation medicine

Inpatient work

Job plans for consultants in RM vary widely; a consultant working in a post-acute rehabilitation facility will have a different emphasis from one working in a community setting. Draft model job specifications and job plans for different settings are available from the BSRM. A typical consultant's working week includes:

- *Ward rounds*: a conventional weekly medical ward round for 20 beds takes about 3 hours.
- *Inpatient MDT meeting*: a rehabilitation unit holds at least one weekly MDT meeting to discuss patient progress, which takes at least 3 hours.
- *Referral work*: 5–10 referrals may be seen per week, which requires 1–2 programmed activities (PAs) (more if offsite travel is required).
- *Interdisciplinary liaison*: liaising between members of the MDT and between the numerous medical and surgical specialties involved requires about 2 PAs per week.
- *Case conferences*: 2–3 cases conferences may be held per week, which last 1–2 hours (1 PA).

Outpatient work

- *Outpatient clinics*: 2–5 new patients or 4–8 follow-up patients may be seen in a session of 1 PA, based on each new patient requiring 45–60 minutes, and each follow-up 30–35 minutes.

- *Special clinics*: examples of these include:
 - young adults clinic
 - prosthetic amputee rehabilitation clinic
 - specialised wheelchair and/or seating clinic
 - environmental control assessment clinic
 - spasticity clinic
 - incontinence clinic
 - diagnosis-specific clinics, eg MS clinics.
- *Specialist investigative and therapeutic procedure clinics*: these include clinics for botulinum toxin, phenol blockade and gait analysis.

Specialist on call

A consultant may be on call for inpatients one in two or one in three nights, but is unlikely to need to come into the hospital more than once a month.

Other specialist activity including activities beyond the local service

Consultants in RM often link with appropriate specialties, as listed in section 4.

Clinically related administration

In RM, assessments are complex; clinics often involve letters to numerous services and agencies, which requires at least half the duration of the clinic in addition to the clinic itself. At least 1 PA per week should be allocated for administration.

Consultants in RM participate in negotiating funding for complex care packages and liaising with primary care trusts, social services and others. Reports on physical and mental capacities, employment, benefits, insurance, etc, are also frequently required.

Community work

Consultants in RM increasingly undertake outreach or network-based activity to support specialist teams in the community. Activities include:

- MDT meetings (including interagency liaison)
- outreach clinics
- home visits (1 PA for 3 or 4 visits)
- scheduled visits to specialist nursing homes.

7 Opportunities for integrated care

Consultants in RM have exceptionally well-developed links with community health and social services. Because people with complex disabilities have

wide-ranging needs, the practice of RM exemplifies interagency communication and cooperation. Vocational rehabilitation entails close relationships with other agencies, including employers.

8 Workforce requirements: clinical and support staff

Current consultant and trainee numbers

There are 177 whole-time equivalent (WTE) RM consultants.¹ More than 90% of RM consultants are employed full time. Development of new consultant posts is proving difficult due to current pressures to meet government spending targets.

There are about 65 specialty trainee (ST) posts in UK. National training numbers (NTNs) have remained static although in common with other medical specialties RM is facing under-recruitment to ST posts. This has implications for future consultant posts.

Estimated requirement for consultants

The BSRM recommends a minimum of 1.5 WTE consultants per 250,000 of the population, including 0.9 WTE consultants for inpatient and outpatient services and 0.6 WTE consultants for community provision. This requires 195 WTE consultants for England (233 for the UK), which is an increase of approximately 32% on current numbers. Additional consultants are required for patients with highly complex needs. Current numbers are thus little over half of what is required. Over a 10-year period, RM has shown the second highest expansion rate at about 150% (Census 1993 to Census 2003),³¹ but the current shortfall remains urgent. Developing new consultant posts is in line with the *National service framework for long-term conditions* (Quality Requirements 4, 5 and 6).⁵ The NSF also stipulates the need for networks of services that are close to patients' homes for patients with highly complex disabilities. In some parts of the UK (especially metropolitan areas) such networks have developed to reflect a mix of 'complex specialised', district specialist and local general services.

Non-medical workforce

There is a parallel requirement for non-medical staff, as an RM consultant cannot practise effectively without access to appropriate numbers of specialist nurses, therapists and clinical psychologists.

Table 1 Example of a job plan (England)		
Activity	Workload	Programmed activities (PAs)
Direct clinical care		
Inpatient ward rounds	20 inpatients	1 per ward round
Referrals	10–12 patients per week	1–2 (more if offsite travel is required)
MDT meeting/case conference, etc	Variable	2–4
Outpatient clinics, including specialised clinics	45–60 mins per new patient and 30–45 mins for follow-up patients	1 per clinic
Outreach work from base hospital	Variable	1–2 (more if this is a key focus of the role)
Work in another specialty	Not often required	–
Work in general medicine/acute take	Not often required	–
Work in academic medicine	Few academic appointments	0–4 (more for formal academic appointments)
Clinical administration	Clinic-related and outreach administration	1–2
Total number of direct clinical care PAs		7.5–8.5 in most contracts
Supporting professional activities (SPAs)		
Work to maintain and improve the quality of healthcare	Education and training, appraisal, departmental management and service development, audit and clinical governance, CPD and revalidation, research	2.5 in most contracts
Other NHS responsibilities*	For example, medical director/clinical director/lead consultant in specialty/clinical tutor	Local agreement with trust
External duties*	For example, work for deaneries/royal colleges/specialist societies/Department of Health or other government bodies, etc	Local agreement with trust

*Note: rehabilitation medicine is a small specialty with fewer consultants to service the same number of roles for colleges, deaneries and Department of Health, etc. These will take more time *per consultant* than in larger specialties.

9 Consultant work programme/specimen job plan

Table 1 broadly indicates activities, a specimen job plan and the relevant number of PAs.

10 Key points for commissioners

1 Rehabilitation medicine is an underused resource that prevents hospital admissions and reduces unneeded expenditure and length of stay during

admissions. It is key in delivering major trauma networks and the NICE guidelines on critical illness.

- Commissioning discussions will be hampered until rehabilitation elements of healthcare are unbundled. Payment for specialist rehabilitation must reflect the complexity of patient needs.
- The BSRM recommends a minimum of six consultants per million population to provide both inpatient and community services, which requires a 50% increase in current consultant numbers.

- 4 Rehabilitation medicine requires MDTs. A centre should include at least two RM consultants (single-handed practice is undesirable).
- 5 Rehabilitation medicine must be recognised as a resource for both hospital and community services. Specialist medical involvement is essential wherever disabilities are complex – for example, amputation rehabilitation. Advice on rehabilitation medicine is often crucial for cost-effective delivery of assistive technologies.
- 6 There should be 45–60 beds per million population, depending on how services such as stroke are provided. The recommended minimum size for an inpatient unit is about 20 beds.
- 7 The special character of RM does not fit well with a standard medical job plan. In RM, more time must be allocated for clinical administration, interagency coordination, home visits and service development.
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