

# The immense role of physical medicine in rheumatology and neurology-an editorial

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The success of modern medicine is increasingly judged not only by survival or control of disease activity, but also by whether patients can walk, work, communicate, perform daily activities, and participate in society. In this context, physical medicine and rehabilitation (PM&R) has an immense and often under-recognised role in rheumatology and neurology. Rehabilitation is no longer merely a service provided after medical treatment has failed; it is an essential component of comprehensive, patient-centred care<sup>[1,2]</sup>.

The global need of physical medicine and rehabilitation (PM&R) is substantial. The Global Burden of Disease 2019 study estimated that approximately 2.41 billion people worldwide were living with a condition that could benefit from rehabilitation, with musculoskeletal disorders being the largest contributor<sup>[1]</sup>. WHO therefore recognises rehabilitation as an essential health service and advocates its integration throughout the continuum of care<sup>[2]</sup>.

## A vital partner in rheumatology

In rheumatology, effective pharmacological treatment can suppress inflammation and prevent structural damage, but disease control does not necessarily restore function. Patients with rheumatoid arthritis, osteoarthritis, spondyloarthritis, systemic lupus erythematosus and other rheumatic diseases may continue to experience pain, stiffness, muscle weakness, fatigue, impaired mobility and limitations in daily activities.

Physical medicine addresses these consequences through therapeutic exercise, muscle strengthening, aerobic conditioning, flexibility training, joint protection, occupational therapy, hand therapy, orthoses, assistive devices and patient education. EULAR recommends

physical activity as an integral part of standard care for inflammatory arthritis and osteoarthritis<sup>[3]</sup>. Evidence shows that aerobic and resistance exercise can improve cardiovascular fitness, muscle strength and physical function<sup>[4]</sup>. The American College of Rheumatology similarly recommends regular exercise as a fundamental component of rheumatoid arthritis management<sup>[5]</sup>.

Importantly, rehabilitation should begin early rather than being reserved for patients with advanced disability. Early intervention can prevent deconditioning, contractures, loss of independence and secondary complications.

## Indispensable in neurology

The role of rehabilitation is even more evident in neurological disorders, where structural damage to the nervous system may not be completely reversible with medication or surgery. Stroke, spinal cord injury, traumatic brain injury, multiple sclerosis, Parkinson disease and peripheral neurological disorders can produce persistent weakness, spasticity, impaired balance, gait disturbance, fatigue, dysphagia, speech impairment and cognitive dysfunction.

Neurorehabilitation seeks to maximise recovery, exploit neuroplasticity, prevent complications and help patients adapt to residual disability. After stroke, physiotherapy, occupational therapy, speech and language therapy, cognitive rehabilitation and appropriate assistive technologies are central to recovery and independence<sup>[6]</sup>. In multiple sclerosis, appropriately prescribed exercise can improve fitness, mobility, fatigue, balance and quality of life<sup>[7]</sup>. In Parkinson disease, physiotherapy and occupational therapy can improve gait, transfers, balance and activities of daily living<sup>[8]</sup>.

Thus, neurological treatment should not end with thrombolysis, antiplatelet therapy,

dopaminergic medication or disease-modifying therapy. The ultimate objective is restoration of meaningful function.

## The multidisciplinary approach

The greatest strength of PM&R lies in multidisciplinary teamwork. Physiatrists, rheumatologists, neurologists, physiotherapists, occupational therapists, speech and language therapists, psychologists, nurses, orthotists and other professionals contribute complementary expertise. This approach shifts clinical attention from the question “What disease does the patient have?” to “What functions have been lost, why have they been lost, and how can they be restored or compensated for?”

This functional perspective is particularly important in chronic pain. Pain frequently produces inactivity, fear of movement and deconditioning, which in turn increase disability. Exercise, education, graded activity, psychological interventions and appropriate physical and pharmacological treatments can help break this cycle.

## The way forward

Despite its importance, access to rehabilitation remains inadequate, particularly in low-income and middle-income countries<sup>[2]</sup>. Rehabilitation services are often concentrated in tertiary hospitals, while community and home-based services remain limited. Integrating rehabilitation into primary care, district hospitals and specialist rheumatology and neurology services should therefore become a health-system priority.

New technologies—including tele-rehabilitation, wearable sensors, robotics, virtual reality and artificial intelligence—may further expand access and improve assessment and monitoring. Nevertheless, technology should complement rather than replace clinical expertise, therapeutic relationships and individualised rehabilitation goals.

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## CONCLUSION

Physical medicine is not an optional extension of rheumatological or neurological care; it is one of its essential pillars. In rheumatology, it transforms control of inflammation into preservation of mobility, strength and independence.

In neurology, it converts neurological recovery and residual capacity into meaningful function and participation. The future of both specialties should therefore be based on closer integration of disease-directed treatment with early, evidence-based and personalised rehabilitation.

The challenge is no longer to demonstrate that rehabilitation matters. The challenge is to ensure that every patient who can benefit from rehabilitation receives it at the right time, in the right setting, and for the right functional goals.

## REFERENCES

1. Cieza A, Causey K, Kamenov K, Hanson SW, Chatterji S, Vos T. *Global estimates of the need for rehabilitation based on the Global Burden of Disease study 2019.* *Lancet* 2021; 396: 2006–17.
2. World Health Organization. *Rehabilitation.* Geneva: WHO; 2024.
3. Rausch Osthoff AK, Niedermann K, Braun J, et al. 2018 EULAR recommendations for physical activity in people with inflammatory arthritis and osteoarthritis. *Ann Rheum Dis* 2018; 77: 1251–60.
4. Rausch Osthoff AK, Niedermann K, Liebl M, et al. *Effects of exercise and physical activity promotion in rheumatoid arthritis, spondyloarthritis and hip/knee osteoarthritis.* *Ann Rheum Dis* 2018; 77: 1625–33.
5. England BR, Smith BJ, Baker NA, et al. 2022 American College of Rheumatology guideline for exercise, rehabilitation, diet, and additional integrative interventions for rheumatoid arthritis. *Arthritis Rheumatol* 2023; 75: 1299–311.
6. Winstein CJ, Stein J, Arena R, et al. *Guidelines for adult stroke rehabilitation and recovery.* *Stroke* 2016; 47: e98–e169.
7. Motl RW, Sandroff BM, Kwakkel G, et al. *Exercise in patients with multiple sclerosis.* *Lancet Neurol* 2017; 16: 848–56.
8. National Institute for Health and Care Excellence. *Parkinson's disease in adults: diagnosis and management.* NICE guideline NG71. London: NICE; 2017.