



Launch Your Career as a  
Leading Expert in  
Neuromusculoskeletal  
and Occupational  
Rehabilitation

Apply Now! Only 5 Seats Available



Join the Recoup Health Clinical Fellowship in Ergonomics, Neuromusculoskeletal and Occupational Rehabilitation, a comprehensive 12-month fellowship program. Experience a blend of theoretical knowledge, hands-on training, research participation, and clinical rotations. Engage in diverse learning opportunities, from lectures and workshops to symposiums, case discussions, journal clubs, and personalized mentoring sessions.

## Elevate Your Skills, Empower Your Patients

Become a sought-after physiotherapist specializing in the treatment and prevention of neuromusculoskeletal and occupational disorders.



## Program Benefits

- Master advanced clinical skills and evidence-based practices in neuromusculoskeletal and occupational rehabilitation.
- Gain specialized knowledge in ergonomics and occupational health, including workplace analysis, risk assessment, and intervention strategies.
- Receive mentorship from renowned faculty and industry leaders with extensive experience in clinical practice, research, and education.
- Contribute to cutting-edge research projects and clinical advancements, gaining valuable experience in scholarly pursuits.
- Network with like-minded professionals from diverse backgrounds, building a strong support system and fostering collaboration.

## Key Learning Areas

- Neuromusculoskeletal anatomy, physiology, and biomechanics
- Assessment and diagnosis of neuromusculoskeletal and occupational disorders
- Evidence-based treatment approaches for various musculoskeletal conditions
- Manual therapy techniques, including myofascial release, joint mobilization, and manipulation
- Therapeutic exercise prescription and rehabilitation programs
- Pain management strategies, including pharmacological and non-pharmacological approaches
- Ergonomics principles and workplace analysis
- Occupational health considerations and return-to-work programs
- Research methodology and participation in ongoing research projects
- Professional development skills, including communication, collaboration, and critical thinking

## Shape Your Future in Neuromusculoskeletal and Occupational Rehabilitation

Batch Start Date: **May 1, 2024**

Application Deadline: **April 30, 2024**

Selection Process: Shortlisted candidates will be interviewed online or in person at Bengaluru.

## Fellowship Director

**Dr. Deepak Sharan**

Consultant in Orthopaedic Surgery, Rehabilitation, Orthopaedic Rheumatology, Pain, Musculoskeletal, Regenerative, Functional and Lifestyle Medicine, Ergonomics, Occupational Health



## Eligibility

- Bachelor's degree in a relevant healthcare field
- Minimum 1 year of work experience as a Physiotherapist is mandatory
- Registration or licensure with the respective professional council in your country.
- Basic life support (BLS) certification.
- Possession of a personal laptop and proficiency with MS Office and basic biostatistics.

## Additional Benefits

- Stipend of INR 25,000 per month to support your living expenses.
- Certified training courses and certifications in various areas, valued at over INR 300,000, are included in the program.
- Opportunity to present research findings at national and international conferences.

## What will you learn as part of this fellowship?

We have a robust program covering various aspects of training as Physiotherapist, with root cause care as the approach. The curriculum is based on guidelines of the International Association for Study of Pain.

### 1. Multidimensional Nature of Pain

- The magnitude of the problem: epidemiology of pain as a public health problem with social, ethical, and economic considerations.
- Current theories of the anatomical, physiological, and psychological basis of pain and pain relief.
- Definition of pain and the multidimensional nature of the pain experience.
- Impact of age, gender, family, culture, spirituality, and the environment on the pain experience.
- Role and responsibilities of the physical therapist in pain management and integrating physical therapy into the interdisciplinary team.
- Roles and responsibilities of other health care professionals in pain management and the merits of interdisciplinary collaboration.
- Integrating physical therapy interventions into a holistic management strategy in collaboration with other professions (health and non-health).
- Pain across the lifespan (physiological and psycho-social factors, implications for assessment, measurement, and intervention)

### 2. Basic Science

- Understand and describe nociceptors and the adequate stimuli to activate nociceptors in different tissue types (i.e. skin, muscle, joint, viscera). Explain the afferent innervations of the spinal cord from different tissue types, and how pain from different tissues is processed centrally.
- Define and describe peripheral sensitisation and how these changes are associated with pain perception.
- Describe neurogenic inflammation, the neurotransmitters involved in this process, and how these neurotransmitters could contribute to peripheral pain processing.
- Understand the changes and role of ion channels, excitatory neurotransmitters, and inhibitory neurotransmitters in the peripheral nervous system and in non-neuronal cells, and explain how these changes are important in the processing of pain transmission.
- Describe animal models of pain. Understand what the models are trying to mimic, and why one would use an animal model to study pain.
- Describe the pain pathways involved in the sensory discriminative and motivational affective component of pain.
- Describe and define central sensitisation and how this is similar and different from peripheral sensitisation.
- Describe and understand the mechanisms that underlie pain behaviors: referred pain, primary hyperalgesia, secondary hyperalgesia, allodynia.
- Understand the role of excitatory neurotransmitters, inhibitory neurotransmitters, and glia in the central nervous system in enhancement of pain transmission, and changes that occur because of tissue injury.
- Describe the descending pathways that modulate pain transmission.

- Understand the differences between pain facilitation and pain inhibition, brain sites, and neurotransmitters that play a role in this process. Understand how these pathways can be activated by non-pharmacological treatments.
- Understand the long-term consequences of chronic pain on the brain.
- Understand neuroimaging tools and key brain regions underpinning the experience of pain and how this changes, depending upon the context, cognitive and emotional state of the individual.
- Compare and contrast two or more theories on the interactions between pain and motor function (e.g. Vicious Cycle Theory and Pain Adaptation Theory).
- Anatomy, Physiology, Biomechanics and Kinesiology of the Neuromusculoskeletal System.
- In-depth study of basic and clinical research knowledge available on connective tissue and fascial system, muscles, myofascial trigger points, causes and patterns of musculoskeletal dysfunction.

### 3. Assessment and Measurement

- Recognize the differences between acute and chronic pain and the implications for assessment and management of the patient.
- Risk stratification and classification of nociceptive, neuropathic and nociplastic pain.
- Emphasize the performance of a comprehensive assessment using reliable and validated tools in the acute pain phase to prevent the onset of chronicity.
- Biomechanical examination of the spine and extremities.
- Use a biopsychosocial approach for the assessment of pain and disability as it accounts for the multidimensional nature of pain in domains relevant to physical therapy practice.
- Account for the multidimensional nature of pain by including appropriate assessment measures for primary domains, including Sensory, Affective, Cognitive, Physiological, and Behavioural.
- Recognise strengths and limitations of commonly used measures for different pain dimensions: Self-report measures as "accepted standard" not gold standard, Physical performance measures including Functional Capacity Evaluations (FCEs), and Physiological/autonomic response measures.
- Modify pain assessment strategies to match inherent variability associated with the patient's clinical presentation: Individual factors (e.g. age, sex, etc.), Sociocultural influences (e.g. spirituality, ethnicity, etc.), Clinical characteristics of pain (e.g. duration, anatomical location, etc.), Pain type and state (e.g. neuropathic pain, cancer pain, etc.), Vulnerable populations (e.g. communication barriers, cognitive impairment etc.)
- Interpret, critically appraise (reliability, validity, and responsiveness), and implement available pain assessment instruments for Screening for the development of chronic conditions; Identifying accepted patient subgroups for application of treatment; and determining clinical relevance and/or magnitude of patient outcomes.
- Understand the need to monitor and review the effectiveness of treatment/management and appropriately modify treatment and management strategies.
- Understand the need to refer to relevant health professionals as appropriate and in a timely manner.

#### 4. Management of Neuromusculoskeletal and Occupational Disorders

- Demonstrate an ability to integrate the patient assessment into an appropriate management plan using the concepts and strategies of clinical reasoning.
- Understand the principles of an effective therapeutic patient/professional relationship to reduce pain, promote optimal function and reduce disability using active and, where appropriate, passive pain management approaches.
- Assist patients in developing a daily routine to support achievement and, where necessary, readjustment of habits and roles according to individual capacity and life situation.
- Where appropriate, understand the need to involve family members and significant others, including employers.
- Use a person-centered perspective to formulate collaborative intervention strategies consistent with a physical therapy perspective.
- Understand the appropriate pharmacology of medications used to treat pain.
- Understand the limitations of the pharmacological management of chronic pain, the importance of combining pharmacological approaches with non-pharmacological management of chronic pain and the use of such strategies alongside appropriate evidence-based active self-management strategies
- Recognise the impact of, and evidence for, the use of therapeutic neuroscience education and self-management as a critical part of pain management.
- Design and apply appropriate educational strategies based on educational science. Identify the range of educational opportunities available across therapeutic domains (e.g., injury, disease, medical and post-surgical intervention) with consideration of age, culture, and gender.
- Understand exercise physiology and principles of sports rehabilitation.
- Consider the scope and evidence for/against various contemporary therapeutic, educational styles (e.g., biomedical, psychological, neuroscience), models (e.g., stages of change theory), and service delivery modes, including face-to-face, web-based, and group education.
- Identify key variables which may impact knowledge outcomes for the patient (e.g., self-efficacy, health literacy, comorbidities, culture), the clinician (e.g., health professional's pain-related beliefs), the message (e.g. use of multimedia), and the context (e.g. insurance limitations; risk reduction; injury prevention)
- Understand and apply functional behavioral analysis of pain conditions.
- Appraise the value of screening tools in identifying psychosocial factors predictive of persistent disability.
- Apply behavioral approaches (physical and cognitive behavioral components) and evaluate the effects.
- Understand therapeutic exercise's parameters (i.e., mode, frequency, duration, intensity) for pain relief.
- Describe how to modify exercise parameters related to pain, age, psychosocial factors, and patient's health status.
- Recognise the importance of implementing adjunct therapies to address issues related to exercise prescription (i.e., biopsychosocial, fear avoidance behavior, catastrophizing, cognitive behavioral therapy).
- Understand the importance of patient education in prescribing therapeutic exercise, including the concept of motivation pacing) to enhance overall treatment effectiveness and compliance.

- Identify the factors associated with prolonged work loss and integrate strategies to overcome barriers to return to work.
- Understand the role of ergonomic principles in modified workplace accommodations.
- Develop a management plan for Physical Therapy, including Manual Therapy (myofascial therapy, massage, manipulation, mobilization), Transcutaneous electrical nerve stimulation (TENS, IFC), Laser, PEMF, Relaxation, EMG Biofeedback, Taping, etc.  
Understand the proposed neurophysiological mechanisms and the associated effects, and for manual therapy, the biomechanical effects of each intervention as it pertains to pain management.
- Understand the principles of clinical application and current evidence for each intervention in managing different pain conditions.
- Understand the principles of body awareness approaches, e.g., Yoga, Tai Chi, Evolution of Movement, Alexander technique and Feldenkrais.
- Understand the use of medical infrared thermography.
- Training in health promotion, wellness, behavioral changes, and lifestyle modifications.

## 5. Ergonomics

- Ergonomics Workplace Analysis
- Diagnosis of Work-Related Musculoskeletal Disorders (WRMSD)
- Pathogenesis of WRMSD
- Rehabilitation of WRMSD - SHARAN's Protocol
- Onsite fitness programmes
- Troubleshooting ergonomics issues
- Prescription of ergonomics gadgetry and tools
- Office ergonomics
- Industrial ergonomics
- Cognitive ergonomics
- Participatory ergonomics
- System ergonomics
- Healthcare Ergonomics
- Return on investment of ergonomic intervention programmes
- EMG Biofeedback, Neurofeedback, Somatic Feedback, Autogenic training
- Heart rate variability
- Activity promotion, Goldilocks Principle
- Nutriergonomics
- Work disability prevention and integration

## 6. Clinical Conditions

- Low back and neck pain
- Arthritis
- Cranio-orofacial pain
- Cancer pain
- Fibromyalgia
- Myofascial pain and dysfunction
- Neuropathic pain
- Complex regional pain syndromes
- Tendinopathies
- Adhesive capsulitis
- Sprains
- Postoperative or post-traumatic pain
- Abdominal and pelvic floor pain
- Ehlers-Danlos Syndrome and Hypermobility Spectrum Disorders
- Repetitive Strain Injuries
- Performing Arts Injuries
- Sports Injuries





## Why Choose RECOUP's Fellowship?

### Unparalleled Learning Environment

RECOUP is a leading healthcare institution renowned for its commitment to clinical excellence, research innovation, and education.

Our esteemed faculty comprises experienced rehabilitation physicians, physiotherapists, occupational therapists, ergonomists, and other healthcare professionals who are passionate about sharing their knowledge and expertise.

You will gain access to state-of-the-art facilities equipped with advanced diagnostic and therapeutic technologies, providing a stimulating and supportive learning environment.

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### Contact Details:

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