Physio- Pulse
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UEM
UNIVERSITY OF ENGINEERING & MANAGEMENT
Good Education, Good Jobs

Physio-Pulse @UEMJ

Physiotherapy

Tips and Tricks

Department of Physiotherapy

University of Engineering and Management, Jaipur

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Welcome back to Physio-Pulse @UEMJ

Welcome to the inaugural edition of *Physio-Pulse @UEMJ*, your go-to resource for cutting-edge insights and practical strategies in the world of physiotherapy. This month, we're focusing on *Tips and Tricks*—simple yet effective techniques that can revolutionize your practice. From fine-tuning patient assessments to incorporating innovative therapies, our expert-curated tips are designed to make a tangible difference in your treatment outcomes. Stay tuned as we explore game-changing advice that will empower you to enhance your skills and patient care."

Upcoming Events

Faculty Development Program
2nd to 6th Sep 2024

Sports Day
7th Sep 2024

World Physiotherapy Day
8th Sep 2024

Fresher's Day
17th Sep 2024

ICAP 2.0
9th and 10th Nov 2024

Recent highlights

Self Defense Training *Aug 18, 2024*

The Women Empowerment Cell- Dhanika successfully conducted the self-defense training for female students today. The training was provided by Mr. Martial Vout, who is a reputed Swiss security advisor and trainer who has been training Instinctive self-defense for more than 20 years.

Mr. Ajendra Sirohi, Project Manager of Agragami India (a Delhi based NGO) was there to help him with his training sessions.

The entire session was interactive and conducted in a fun way to make students comfortable with dealing with such situations. All students were enthusiastic during the training and learned the techniques to defend themselves in difficult situations.

Motivational Talk

July 30, 2024

The Department of Physiotherapy at UEMJ organized an insightful **Motivational Talk** on career opportunities for BPT students, featuring two highly respected government physiotherapists **Dr Manish Gurjar** (Senior Physiotherapist, Cardio-thoracic Department, SMS Hospital Jaipur) and **Dr Harendra Singh Gurjar** (In charge of Physiotherapy Department, District Hospital Dausa). Both speakers, with extensive experience in government and private practice, shared their professional journeys and offered practical advice on navigating career paths in physiotherapy. They discussed key opportunities in government hospitals, private practice, and emerging fields like sports and rehabilitation. Students gained invaluable insights on building a rewarding career in physiotherapy, with the speakers emphasizing the importance of continuous learning, dedication, and adaptability in this ever-evolving field. The event was a remarkable opportunity for students to interact with industry experts and receive career guidance that will undoubtedly shape their future endeavours.

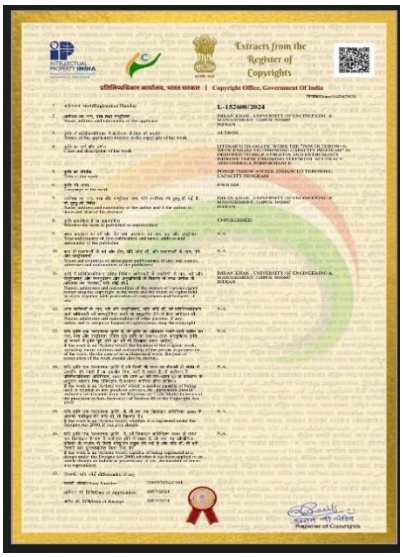
Achievements

Dr Gaurav Shrivastava has been invited as keynote Speaker in KASHCON 2024, where he has represented Department of Physiotherapy UEM, Jaipur

Dr Gaurav Shrivastava

Dr Gaurav has been Honored with an Inspiring leader and academic excellence in physiotherapy award for his amazing, outstanding contribution in physiotherapy field organized by INDO ASIA LEADERSHIP* on 17th August in Stardom Resort, Jaipur. The esteemed presence of chief Guest Bollywood actress Amisha Patel elevated the Grace of this occasion.

Dr. Imran khan has published a copyright of work entitled “Power throw 6-week enhanced throwing capacity program". that got registered under "COPYRIGHT INDIA" ROC number L-152600/2024



Extracts from the Register of Copyrights

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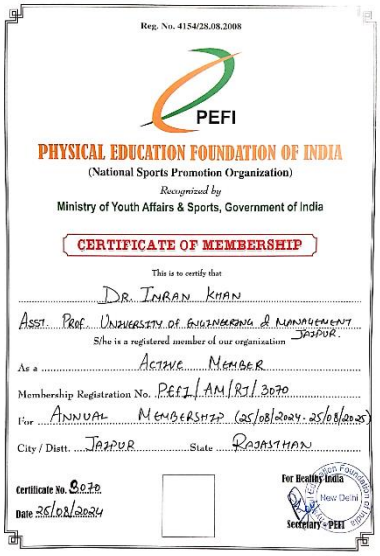
L-152600/2024

PUBLISHED

Dr Imran khan have officially been recognized as an Active Member of the Physical Education Foundation of India (PEFI), a national organization dedicated to the promotion and development of sports across India. This prestigious foundation is recognized by the Ministry of Youth Affairs & Sports, Government of India, underscoring the importance of fostering a culture of physical education and sportsmanship. As an Assistant Professor at the University of Engineering & Management (UEM) Jaipur, this membership strengthens my resolve to contribute meaningfully to the fields of sports science and physical education.



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PEFI

PHYSICAL EDUCATION FOUNDATION OF INDIA

(National Sports Promotion Organization)

Recognized by

Ministry of Youth Affairs & Sports, Government of India

CERTIFICATE OF MEMBERSHIP

This is to certify that

DR. IMRAN KHAN

ASST. PROF. UNIVERSITY OF ENGINEERING & MANAGEMENT JAIPUR

S/he is a registered member of our organization

As a ACTIVE MEMBER

Membership Registration No. PEFI/AM/RJ/3070

For ANNUAL MEMBERSHIP (25/08/2024-25/08/2025)

City / Distt. JAIPUR State RAJASTHAN

Certificate No. 3070

Date 26/08/2024

For Healthy India

Secretary - PEFI

This annual membership for 2024-2025 is not just a personal achievement but a stepping stone toward greater involvement in initiatives that aim to inspire and cultivate talent in sports and fitness. I look forward to collaborating with fellow educators, sports professionals, and students to bring about positive changes in the sports landscape of our country.

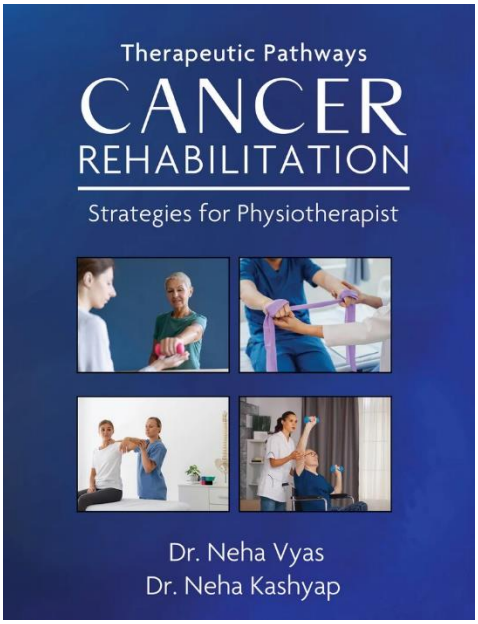
Dr Imran Khan has Received Dr Sarbepalli Radhakrishnan National Educationist Award

Dr. Sarvepalli Radhakrishnan National Educationist Award

It is with great honor that the WELRED FOUNDATION, a prominent non-profit organization dedicated to promoting excellence in education, proudly bestows the Dr. Sarvepalli Radhakrishnan National Educationist Award upon Dr. Imran Khan. Dr. Imran Khan, who serves as an Assistant Professor and a distinguished Physiotherapist in Chomu, Rajasthan, India, has demonstrated unparalleled commitment and contribution to the field of education. His dedication to advancing knowledge, nurturing future professionals, and fostering a culture of learning and innovation has made a significant impact in the educational community.

BOOK Publication

Dr Neha Vvas has Published a book **Therapeutic Pathways: Cancer Rehabilitation Strategies for Physiotherapists**, Edited by Dr Madhu Teotia and Dr Vishnuraj Nair This comprehensive guide provides evidence-based strategies for physiotherapists working with cancer patients to support their rehabilitation journey.



About the book:

Therapeutic Pathways: Navigating Cancer Rehabilitation Strategies for Physiotherapists" is an invaluable guide meticulously crafted by dedicated editors to bridge the gap between theory and practice in the challenging field of cancer rehabilitation. This comprehensive resource is a beacon for physiotherapists, presenting evidence-based strategies, practical insights, and compassionate approaches essential for guiding patients through their unique rehabilitation journey

Publisher: White Falcon Publishing; 1 edition (August 2024)

Author: Neha Vyas, Neha Kashyap,

Editors: Dr Madhu teotia, Dr Vishnuraj Nair

ISBN-13: 9788119510405

Seminar/Workshop

The two-day workshop on Integrated Manual Therapy (Module: Spine), held at UEM Jaipur, was successfully completed on August 13, 2024. The workshop was an intensive program designed to enhance clinical diagnostic and management skills, focusing specifically on spine-related issues. Dr. Akshay Sharma, an expert in musculoskeletal and sports physiotherapy, served as the resource person for the workshop. Participants engaged in hands-on training, covering critical topics such as biomechanical assessment, physical diagnosis, palpation techniques, and differential diagnosis of specific and non-specific low back pain. The workshop also included sessions on integrated manual therapy management, corrective exercises, and muscle energy techniques (MET), all aimed at equipping the participants with practical skills for managing spine-related conditions. The workshop concluded with a certificate distribution ceremony, where the Registrar and Associate Dean of UEM Jaipur awarded certificates to students who successfully completed the program.

Hands-on Demonstration by Dr Akshay Kumar

The Department of Physiotherapy has organized a seminar by Dr. Mayank Pushkar, a renowned Sports Physiotherapist, and delivered a talk on advanced physiotherapy techniques.

Dr. Mayank Pushkar (PT) is an experienced Sports Physiotherapist with a rich background in working with national and international sports teams, including the Indian Blind Cricket Team. His expertise in Kinesiology Taping, Cupping & Hijama, and Functional Instrument Assisted Soft Tissue Mobilization (F-IASTM) was shared extensively during the seminar.

The seminar was highly beneficial for our physiotherapy students, who gained valuable practical insights and hands-on experience in advanced physiotherapy techniques. Dr. Pushkar's dynamic teaching style and profound knowledge were well-received, and the students are enthusiastic about applying these new skills in their practice.

Student's Corner

Understanding Osteoarthritis: A Common Joint Problem

Osteoarthritis is a condition that affects many people, especially as they age. It is a type of arthritis that occurs when the protective cartilage in our joints wears down over time. This can lead to pain, stiffness, and swelling in the affected joints, making daily activities like walking or climbing stairs difficult.

The main cause of osteoarthritis is the wear and tear of cartilage, which is the tissue that cushions our joints. As we grow older, this cartilage can start to break down. Other factors, like being overweight, previous joint injuries, or even genetics, can increase the risk of developing osteoarthritis.

People with osteoarthritis often feel pain in their knees, hips, hands, or spine. The pain may worsen after activity or in the evening. There is no cure for osteoarthritis, but treatments like physiotherapy, exercises, and medications can help manage the symptoms.

In conclusion, osteoarthritis is a common problem that many people face as they age. By understanding the condition and taking proper care of our joints, we can live a more comfortable and active life despite it.

Priya Sharma

BPT Third year

Dry Needling

The Power of Dry Needling in Physiotherapy: Unlocking Pain Relief and Recovery

Dry needling involves the insertion of thin, sterile needles into specific areas of the body, typically muscles, to stimulate healing and relaxation. Unlike acupuncture, which focuses on traditional Chinese medicine principles, dry needling is grounded in Western medical science and targets specific anatomical structures.

Benefits of Dry Needling

1. Pain Relief: Dry needling releases endorphins, the body's natural painkillers, providing relief from chronic pain conditions like lower back pain, headaches, and migraines.
2. Improved Range of Motion: By reducing muscle tension and inflammation, dry needling enhances flexibility and mobility.
3. Enhanced Recovery: Dry needling promotes blood flow, accelerating the recovery process after exercise or injury.

4. Reduced Muscle Tension: Dry needling relaxes overactive muscles, alleviating muscle spasms and cramping.

Mechanisms of Dry Needling

1. Stimulation of Nerve Endings: Needles stimulate nerve endings, releasing pain-relieving chemicals.
2. Increased Blood Flow: Needling causes micro-trauma, attracting blood flow and promoting healing.
3. Muscle Relaxation: Dry needling reduces muscle tension by releasing tension in the muscle fibers.

Monika Yadav
BPT III Year

OSTEOARTHRITIS

Manisha Chaudhary BPT III year

Osteoarthritis (OA) is a degenerative joint disease that affects particularly older adults. It occurs when the protective cartilage that cushions the ends of bones get damaged. This leads to pain, stiffness, and reduced mobility in the affected joints.

Causes of Osteoarthritis

1.Age: The risk of developing OA increases with age, as the joints undergo wear and tear over time.

2.Genetics: Family history can play a role in causing OA to the patient.

3.Joint Injuries: Previous injuries to joints, such as those sustained during sports or accidents, can lead to the development of OA later in life.

4.Obesity: Excess body weight puts additional stress on weight-bearing joints like the knees and hips, increasing the risk of OA.

Symptoms

The symptoms of osteoarthritis can vary depending on the severity and the joints affected.

1.Pain: Joint pain, often worsening with activity and improving with rest.

2. morning stiffness or after periods of inactivity.

3.Swelling: Swelling in the joints due to inflammation.

4.Reduced Flexibility: Difficulty moving the affected joints through their full range of motion.

Treatment

1.Medications:

•Pain Relievers: Over-the-counter pain relievers like acetaminophen or NSAIDs (e.g., ibuprofen)

•Topical Treatments: Creams or gels applied to the skin over the joint can provide pain relief.

•Corticosteroid Injections: These can reduce inflammation and pain.

2.Physical Therapy: A physical therapist can create an exercise program to strengthen the muscles around the joint, improve flexibility, and reduce pain.

3.Surgical Options:

•Joint Replacement.

•Arthroscopy

4.Lifestyle Modifications

•Weight Management (losing weight)

•Exercise (low impact exercise)

•Assistive Devices (canes, braces and shoes)

Cerebral palsy

Megha Hadriwal BPT IV year

CP is a group of disorders which affects a person's ability to move and maintain balance and posture. It is a neuro developmental disorder which is caused by abnormal brain development or damage to the developing brain. The global prevalence of cerebral palsy is estimated to be about 1.5 to 4 per 1000 live births commonly population is affected by the spastic type of CP. Physiotherapy management for CP patient: Physiotherapy plays a crucial role in management of CP. It helping to improve mobility, functional ability and improve quality of life for individuals with the condition

Goals of physiotherapy: improve mobility, enhance muscle strength and flexibility, promote postural control and balance, prevent contracture and deformity, facilitate functional independence

Physiotherapy technique which are used in the treatment of CP patient

1. Neuro developmental therapy (NDT): also known as Bobath therapy. This approach focuses on improving motor control and functional movements. It emphasizes handling techniques to facilitate normal movement patterns and inhibit abnormal ones.

2. Constraint-Induced Movement therapy (CIMT): Used particularly for children with hemiplegia, this method involves restraining the unaffected limb to encourage use of the affected limb

3. Stretching and strengthening exercises: - to improve ROM and prevent contracture we used stretching and to increase muscle build we used strengthening.

4. Gait Training: like treadmill, overground walking and use of assistive devices like walkers or braces.

5.Aquatic therapy: Water based exercise can be beneficial due to the buoyancy of water, which reduces stress on the joints and muscles to allowing easier movements

STROKE

Stroke is also known as a brain attack, is a medical emergency that occurs when blood flow to the brain is cut off, damaging brain tissue. This can happen when a blood vessel in the brain bursts into block.

COMMON CAUSES OF STROKE

High blood pressure, aneurysms, head trauma (road traffic accident) fat deposition, high cholesterol, smoking, diabetes, cardiovascular disease, obstructive sleep apnea, COVID-19 infection, sedentary lifestyle

SYMPTOMS OF STROKE-

Trick - BE FAST

B- Balance
E- Eye deviation
F- Face dropping
A- Arm dropping
S- Speech impairment
T- Time

Faculty's Corner

Enhancing Student Concentration: The Role of Bhramari Pranayama (HUM LIKE A BEE) Technique

Dr Sapna Malla

In the fast-paced and demanding academic environment, students often grapple with maintaining focus and concentration amidst numerous distractions. However, amidst the technological advancements and academic pressures, ancient practices such as Bhramari Pranayama offer a valuable solution to enhance concentration power. Bhramari Pranayama, commonly known as the Humming Bee Breath, is a yogic breathing technique that involves controlled inhalation and exhalation through the nostrils. The exhalation in this breathing technique resembles the typical humming sound of the bee. Bhramari pranayama is effective in instantly calming down the mind. It is one of the best breathing exercises to free the mind of agitation, frustration, or anxiety and get rid of anger to a great extent. This simple yet powerful practice holds immense potential to calm the mind, reduce stress, and promote relaxation, thereby creating an optimal state for heightened concentration. It enhances the coordination between mind and body and improves the autonomic nervous system towards parasympathetic dominance. Practice this simple technique anywhere at work or home to instantly de-stress. It works to soothe the nerves, especially around the brain and forehead. By incorporating Bhramari Pranayama into their daily routine, students can experience a myriad of benefits conducive to improved focus and cognitive abilities. The rhythmic nature of this technique fosters synchronization between the body and mind, fostering a sense of harmony essential for optimal cognitive functioning.
Moreover, it also promotes focus, speech discrimination and gripping capacity by putting the brain wave into an alpha state. This long-term work out, if done correctly it can revitalize and transform the body, mind and spirit. The practice of this Pranayama offers a holistic approach as students engage in this ancient practice, they cultivate a greater ability to center their attention, maintain mental clarity, and navigate academic challenges with ease.

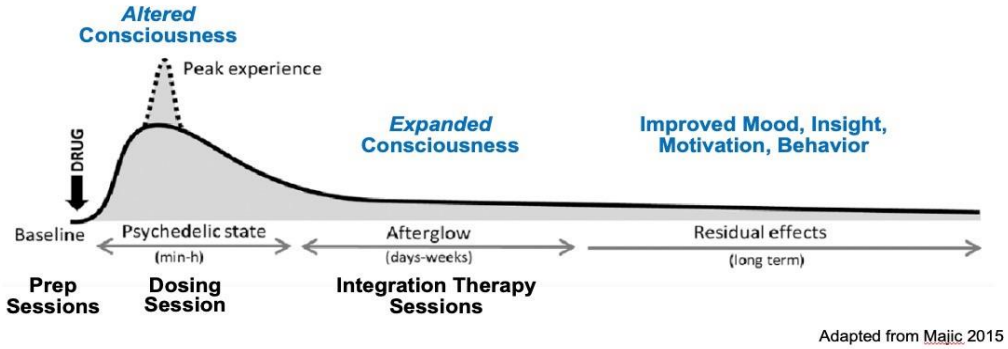
In an era where distractions abound, Bhramari Pranayama emerges as a beacon of hope, offering students a practical and accessible tool to cultivate the concentration power necessary for academic success and personal growth. Anyone of any age can practice it. The only prerequisite is that you do it on an empty stomach.

UNLOCKING RELIEF

The Promise of Ketamine Therapy for Depression

Dr Seema Sharma

Ketamine, initially recognized as an anaesthetic, has evolved into a promising treatment for mental health issues. This article explores its mechanism, process, outcomes, and differences from traditional antidepressants. Ketamine therapy involves administering low doses of ketamine to treat conditions like depression and anxiety by interacting with NMDA receptors in the brain, facilitating synaptogenesis and modulating inflammation signals. The therapy typically entails IV infusions lasting 40 minutes, often accompanied by counselling. Unlike conventional antidepressants, ketamine offers rapid relief, typically requiring 6-8 sessions. Various administration modalities include nasal spray, IV therapy, IM injections, and oral lozenges, with safety precautions due to potential side effects like nausea and dissociation, as well as contraindications in certain medical conditions.



Adapted from Majic 2015

A Stanford University study indicates the importance of psychological and social factors in treatment outcomes, challenging the narrative surrounding ketamine therapy. Despite complications in understanding its effects, ketamine highlights the placebo effect's significance and the necessity of instilling hope in patients. Contraindications include severe cardiovascular conditions, while precautions advise administration by experienced medical practitioners and monitoring during recovery. In conclusion, ketamine therapy offers a promising alternative for mental health care, with ongoing research poised to further refine its applications and protocols, potentially transforming psychiatric treatment paradigms.

Expert talk

Integrating Physiotherapy in the Management of Sleep Apnea: A New Therapeutic Frontier

-Dr. Aditi Singh, PhD

Sleep apnea, a condition marked by repeated interruptions in breathing during sleep, affects millions worldwide, disrupting not only sleep patterns but overall health. While traditional treatments often focus on medical interventions, physiotherapy plays a crucial and supportive role in managing this condition. These interruptions, called apneas, can last from a few seconds to minutes and may occur multiple times per hour. There are three main types of sleep apnea:

1. Obstructive Sleep Apnea (OSA): Most common type. Caused by a blockage of the airway, usually when the soft tissue in the back of the throat collapses during sleep.
2. Central Sleep Apnea (CSA): Occurs when the brain fails to send proper signals to the muscles that control breathing. Less common than OSA and often associated with certain medical conditions such as heart failure and stroke.
3. Complex Sleep Apnea Syndrome (Treatment-Emergent Central Sleep Apnea): A combination of OSA and CSA. Diagnosed when a person has both obstructive and central apnea events.

The Role of Physiotherapy in Managing Sleep Apnea

Physiotherapy offers a supportive and often underutilized approach to managing sleep apnea, particularly for those with obstructive sleep apnea. Here are several ways in which physiotherapy can help: **1. Breathing Exercises**: Diaphragmatic Breathing: This technique focuses on improving the efficiency of the diaphragm, the primary muscle involved in breathing. Proper diaphragmatic breathing reduces the workload on accessory muscles and promotes better airflow. Pursed-Lip Breathing: Helps keep airways open longer, reducing the work of breathing and improving the exchange of oxygen and carbon dioxide.

2. Postural Training: Poor posture, especially when sleeping, can contribute to airway obstruction. Physiotherapists can provide guidance on: Sleep Positioning: Training on how-to sleep-in positions that reduce airway collapse. For example, sleeping on the side rather than the back. Postural Correction Exercises: Exercises to strengthen postural muscles and maintain an open airway during sleep.

3. Strengthening Exercises: Oropharyngeal Exercises: These exercises target the muscles of the mouth and throat. Strengthening these muscles can reduce the likelihood of airway collapse.

Types of Oropharyngeal Exercises

1. Tongue Exercises: Tongue Slide: Place the tip of the tongue against the back of the upper front teeth and slide it backward along the roof of the mouth. Repeat this motion 10-15 times.

   Tongue Stretch: Stick your tongue out as far as you can, and then move it up and down and side to side. Hold each position for a few seconds and repeat 10 times.

   Tongue Press: Press your tongue flat against the roof of your mouth and hold for 5 seconds. Repeat 10-15 times.

2. Soft Palate Exercises: Soft Palate Blowing: Blow air through a straw for a few minutes, aiming to lift the soft palate. This strengthens the muscles of the soft palate. Vowel Repetitions: Forcefully repeat the vowel sounds "A-E-I-O-U" several times in a row. This helps engage the soft palate and throat muscles.

3. Cheek Exercises: Cheek Puffing: Puff out each cheek separately, holding the air in each cheek for a few seconds. Repeat this exercise 10 times on each side. Cheek Resistance: Place a finger on each cheek and push against your cheeks while keeping your lips sealed and trying to puff out your cheeks. Hold for 5 seconds and repeat 10 times.

4. Throat Exercises: Gargling: Gargle with water for a few minutes each day. This exercise helps engage the muscles in the back of the throat. Throat Squeeze: Say "ah" while pressing the back of your tongue to the roof of your mouth. Hold the "ah" sound for 5 seconds and repeat 10-15 times.

5. Jaw Exercises: Jaw Slide: Move your jaw forward and hold for a few seconds, then move it backward. Repeat this motion 10-15 times. Jaw Resistance: Place your hand under your chin and push upwards while resisting the movement with your jaw. Hold for 5 seconds and repeat 10 times.

Implementation and Consistency

For these exercises to be effective, consistency is key. Patients should aim to perform these exercises daily, ideally several times a day. It's often recommended to combine a variety of these exercises to target all relevant muscle groups comprehensively.

Neck and Upper Body Strengthening: Strengthening the muscles around the neck can also help maintain an open airway.

4. Lifestyle and Weight Management: Exercise Programs: Regular physical activity and structured exercise programs designed by physiotherapists can aid in weight management, which is crucial for those with sleep apnea as excess weight can exacerbate the condition.

Education on Lifestyle Modifications: Physiotherapists can provide education on lifestyle changes that impact sleep apnea, such as dietary advice, smoking cessation, and strategies to reduce alcohol consumption.

5. Use of CPAP and Other Devices: Physiotherapists can assist in the acclimatization to Continuous Positive Airway Pressure (CPAP) therapy, providing support in: Mask Fitting and Adjustment: Ensuring the CPAP mask fits properly to maximize comfort and effectiveness.

CPAP Desensitization: Techniques to help patients become more comfortable using CPAP machines.

Information

World Physiotherapy Day

8th Sep 2024

Theme: Low back Pain