



E-Abstract Book

National Conference On Arthritis 2021 (Virtual)

In association with

Ahmednagar District IAP Branch and Indian Association of PT Women Cell

12th October 2021

Website: www.vimscopt.edu.in



Dr. Vithalrao Vikhe Patil Foundation's

COLLEGE OF PHYSIOTHERAPY

Opp. Govt. Milk Dairy, M.I.D.C., Ahmednagar-414111

Tel:-(0241) 2778042, 2777059, Fax:- (0241) 2779757

E-mail: principal_physiotherapy@vims.edu.in Website: www.vims.edu.in

Dr.VithalraoVikhePatil Foundation's college of physiotherapy Ahmednagar, which is recognized by Govt. of Maharashtra and Maharashtra State Council of Occupational and Physiotherapy Mumbai. The college was established in the year 2007 with Bachelor of Physiotherapy and Master of Physiotherapy in all specialities (Musculoskeletal sciences, Neurosciences, Cardio-respiratory Sciences and Community Medical Sciences) affiliated to Maharashtra University of Health Sciences Nashik. The continuous up-gradation of facilities at college, coupled with highly qualified and experienced faculty has brought the institute to the forefront in the educational scenario in the state. The institute aspires to be a centre of excellence in the areas of specialization. The assets of the include a team of full-time dedicated qualified faculty members in the relevant branches of physiotherapy, a well-developed central library, an upgraded computer centre, a sprawling hospital complex, a state of the art department Lab. Biggest testimony to College of Physiotherapy is the appreciation of students from Hospital and Rehabilitation Centres all over the country during their educational visits. College got recognition of PG degree from August 2015. Currently there are 12 seats for Masters of Physiotherapy(3 for Musculoskeletal sciences, 3 for Neurosciences, 3 for Cardio-respiratory Sciences and 3 for Community Medical Sciences). College got recognition of PhD. degree from 2019. Currently there are 12 seats for Masters of Physiotherapy (3 for Musculoskeletal sciences, 3 for Neurosciences, 3 for Cardio-respiratory Sciences and 3 for Community Medical Sciences).



Inspiration



Hon. Shri. Radhakrishna Vikhe Patil

Member of Legislative Assembly Maharashtra State
Ex. Minister Housing Development
Government of Maharashtra
Chairman, Dr. Vithalrao Vikhe Patil Foundation
Ahmednagar

Torch bearer



Hon. Dr. Sujay Vikhe Patil

CEO, M. Ch (Neuro. Surgery)
Member of Parliament, Ahmednagar Constituency,
Member, Parliamentary Standing Committee for
Health & Family Welfare, Govt. of India.

Guiding Light



Lt. Gen B Sadananda (Retd)

AVSM, VSM,
Secretary General
DVVPFS medical college and hospital



Dr. Abhijit Diwate (PhD)

Deputy Director, Prof & HOD,
Cardiovascular and Pulmonary Physiotherapy
COPT, Ahmednagar



Dr. Shyam Ganvir, PhD
Principal, COPT, Ahmednagar &
Professor and HOD,
Dept. of Community Physiotherapy



Dr. Suvarna Ganvir, PhD
Prof & HOD, Dept of Neurophysiotherapy
COPT, Ahmednagar



Dr. Deepak Anap, PhD
Prof & HOD, Dept of Musculoskeletal Sciences
COPT, Ahmednagar





DVVPF's, College of Physiotherapy



IAP President



Dr. Sanjiv Jha

President, Indian Association of Physiotherapist

Organizing Committee



Dr. Shyam Ganvir, PhD

Organizing Chairman

Principal, COPT, Ahmednagar &
Professor and HOD,
Dept. of Community Physiotherapy



Dr. Deepak Anap, PhD

Organizing Secretary

Prof & HOD, Dept of
Musculoskeletal Sciences
COPT, Ahmednagar

Advisors



Dr. Suvarna Ganvir, PhD
PhD., State Co-ordinator
IAPWC



Dr. Ruchi Varshaney
National Head IAPWC



Dr. Ujwal Yeole
President
IAP Maharashtra
State Chapter



Dr. Abhijit Diwate, PhD
PhD, Prof & HOD,
COPT, Ahmednagar



National Conference On Arthritis 2021 (Virtual)





Registration Committee

Dr. Pranali Suryawanshi (PT)

Ph.D. Scholar,
DVVPF, College of Physiotherapy

Dr. Priyanka Jadhav (PT)

Assistant Professor
DVVPF, College of Physiotherapy

Dr. Nilesh Dond (PT)

PG Students

Dr. Siddhant Sawant (PT)

Ph.D. Scholar,
DVVPF, College of Physiotherapy

Dr. Priyanka Gadgil (PT)

PG Students

Dr. Kajol Dethe (PT)

PG Students

Scientific Committee

Dr. Himanshu Pathak (PT)

Assistant Professor,
DVVPF, College of Physiotherapy

Dr. Zoya Khatoon (PT)

PG, Students

Dr. Shwetanjali Bhagra (PT)

Assistant Professor,
DVVPF, College of Physiotherapy

Dr. Misbah Siddiqui (PT)

PG, Students

Dr. Mrudula Shete (PT)

PG, Students





WINNERS

Teachers & PhD Category



Dr. Jaspreet Kaur Kang (PT)

1st Prize

Mahatma Gandhi Physiotherapy College
Ahmedabad (Gujrat)



Dr. Shrikant B. Darade (PT)

2nd Prize

Motiwalla College of Physiotherapy,
Nashik (Maharashtra)

PG Category



Dr. Muskan Shashikant Mahant

1st Prize

Govt. Spine Institute and Govt. Physiotherapy
College, Ahmedabad (Gujrat)



Dr. Dhruv Sureshbhai Jain (PT)

2nd Prize

Govt. Spine Institute and Physiotherapy
College, Ahmedabad (Gujrat)

UG Category



Janvi Bharat Rajpal

1st Prize

Motiwalla College of Physiotherapy, Nashik
(Maharashtra)



Shrushti Shah

2nd Prize

DVVPF, College of Physiotherapy,
Ahmednagar (Maharashtra)





DVVPF's, College of Physiotherapy



Speaker Presentation



National Conference On Arthritis 2021 (Virtual)

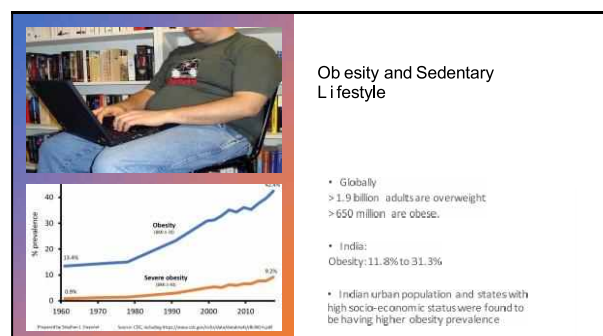
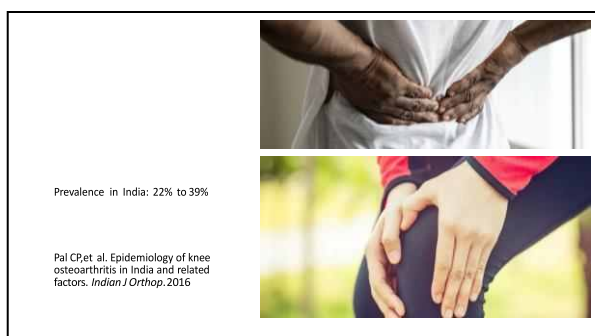
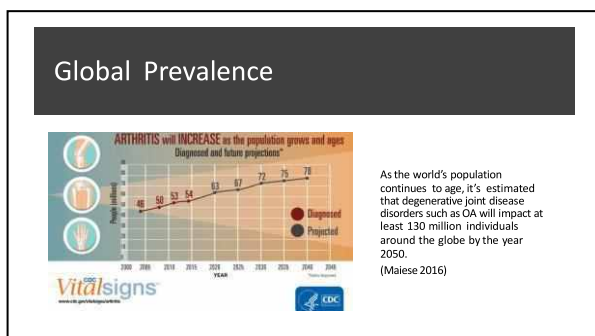
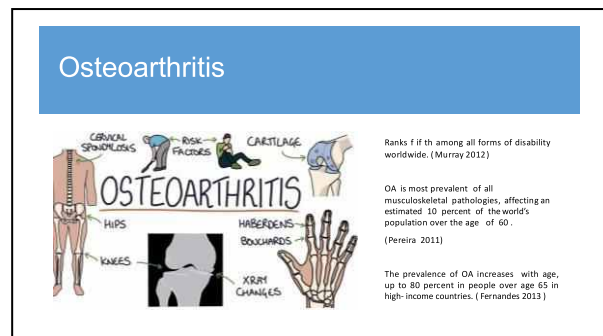
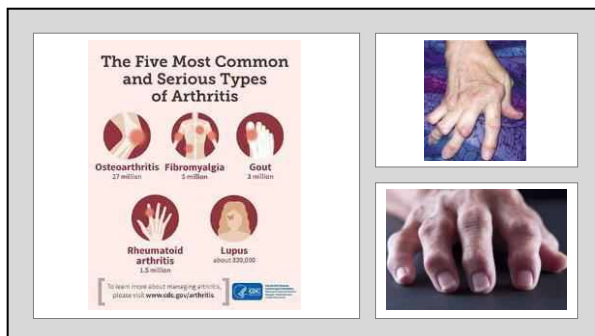
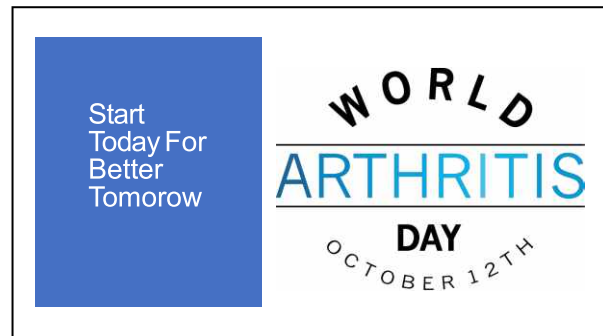
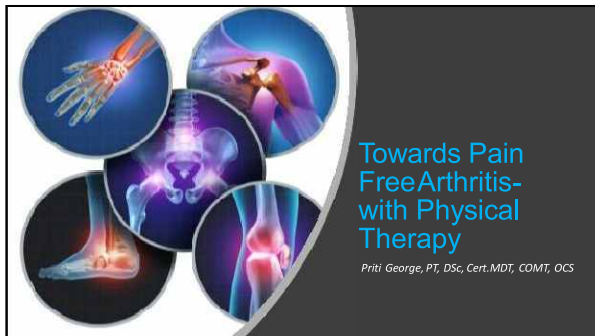





Towards Pain Free Arthritis-with Physical Therapy

Priti George

PT, DSc, Cert.MDT, COMT, OCS
USA





- Knee injuries remain the most prevalent worldwide.
- Accounts for 12.5 percent of post-traumatic OA cases in US. (Gage 2012)

Secondary OA



Post-traumatic OA is recognized as a disabling condition as soon as 20 months after injury (Rivers 2012)

Five common athletic injuries with greater risk of developing post-traumatic OA:

- anterior cruciate ligament (ACL) ruptures
- meniscus tears (the second most common structure damaged in athletes)
- shoulder dislocation
- patellar dislocation
- ankle instability (Whittaker 2015)


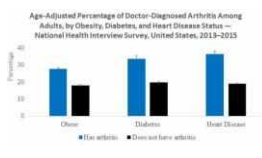
Economic Burden

In 2013, total medical costs and earnings losses due to Arthritis were \$304 Billion (Murphy 2017)

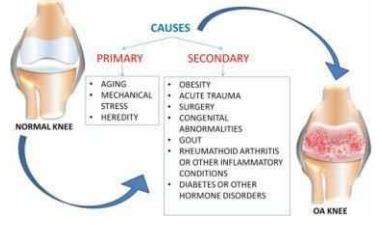


Health Burden

- Arthritis is the most common chronic condition among chronic users of opioids in the U.S. (Hudson 2008)
- High risk of chronic kidney disease from chronic use of NSAIDs
- Higher risk of increase Co-morbidities

Etiology



CAUSES



PRIMARY

- AGING
- MECHANICAL STRESS
- HEREDITY

SECONDARY

- OBESITY
- ACUTE TRAUMA
- SURGERY
- CONGENITAL ABNORMALITIES
- GOUT
- RHEUMATOID ARTHRITIS, OR OTHER INFLAMMATORY CONDITIONS
- DIABETES OR OTHER HORMONE DISORDERS

Pathogenesis





Vicious Cycle

Assessment

- Good history and Exam to categorize type and stage
- ACR criteria for clinical diagnosis
- WOMAC Osteoarthritis Index
- Physical impairment and functional assessment
- T/T Goals: reduce pain and functional disability

Not Curable But Manageable

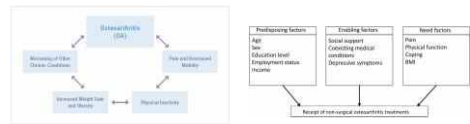


Primary Prevention: No Disease, No Illness → Health Promotion

Secondary Prevention: Subclinical Disease, No Illness → Detect and Treat Early

Tertiary Prevention: Clinical Disease, Illness → Reduce the Damage

Recommended Non-surgical OA treatments



40% of individuals reported having not received core recommended non-surgical treatments. Older individuals, men, and those with less education had lower odds of having used recommended non-surgical OA treatments.

The Journal of Rheumatology August 2020, 47 (8) 1253-1260; DOI: <https://doi.org/10.3899/jrheum.190467>

Core First-Line Treatments



CORE FIRST-LINE TREATMENTS

Exercise: Aerobic, Strengthening, Range of Motion
Weight Loss / Weight Maintenance
Self-Management, Education

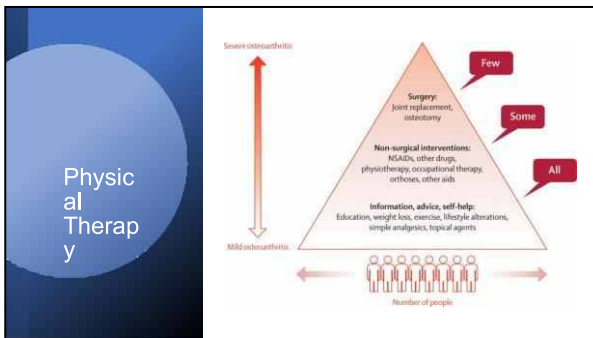
Non-pharmacological Therapies:

- Increase Range of Motion through Manual Therapy
- Joint Protection
- Walking Aids
- Assistive Devices
- Thermal Modalities
- Aquatic Exercise
- Shoe Inserts
- Knee Braces*
- Foot Wedges*

Pharmacological Therapies:

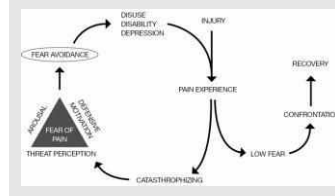
- Topical NSAIDs
- Capsaicin
- Oral NSAIDs
- Intra-articular Steroids
- Tramadol
- Duloxetine*
- Opioids
- Acetaminophen

*Therapies with some evidence but no "first-line" recommendation



Physical Therapy

Education



Verbal and written information to enhance understanding of the condition and its management.

Use words of encouragement to reduce fear avoidance behavior.

Counter misconceptions like inevitably progresses and cannot be treated

Ongoing, integral part of the management plan rather than a single event

Lifestyle Management

Coaching for positive behavioral changes in lifestyle.

Emphasize the recommended core treatments.

- Community based programs
- Community self-management education program
- Remote program

Exercise

Irrespective of age, comorbidity, pain severity or disability

Exercises prescription: Type, repetition, sets, frequency, duration, allowed modifications and education of pain guide using traffic light analogy.

Include as appropriate: local/global muscle strengthening, balance and proprioceptive exercises and general aerobic fitness.

Physical Activity

- Fewer people with arthritis met aerobic and muscle strengthening guidelines than people without arthritis.
- People with arthritis may need additional strategies to address potential barriers to physical activity—such barriers as pain, psychological distress and inadequate medical support. (Murphy 2017)

7 key Recommendations

- Exercise and physical activity should be tailored to the patient's needs and preferences.
- Consider water exercises or low-impact exercises if it is too painful to exercise on land.
- Supervised exercise therapy over a 6-week period is often helpful to get started.
- Some people may need 12 weeks of supervised therapy to begin.
- After completion of supervised therapy, patient may need periodic "booster sessions" to help with long-term management of OA pain and overall health.
- Home exercises should be performed to optimize outcomes. Encourage low impact activities.
- Patient should be educated to understand how to manage flare-ups in pain and how to modify exercises when pain increases.

Manual Therapy

A combination of manual physical therapy and supervised exercise yields functional benefits

Three Paradigms:

- Physiological: positive placebo response
- Biomechanical and Physical: facilitates repair and tissue modelling
- Psychological: pain relief via-stimulates gating mechanism; muscle inhibition; reduction of nociceptive activity; reduced intra-articular or periarticular pressure

Activity Modification

American Academy of Orthopedic Surgeons (AAOS)

Switching from high-impact exercises such as running and competitive sports to low-impact exercises such as swimming and walking.

Activity modification has been shown to reduce and/or relieve arthritic pain for many.

Aim for pain free activities

Weight Loss

Weight loss has been shown to reduce the amount of stress on joints, resulting in decreased pain and improved function for people with BMI 25 or more.

Offer counseling services and safe physical activities choices to achieve weight loss as a core treatment for people who are obese or overweight.

Electrotherapy





Thermotherapy

The use of local heat or cold should be considered as an adjunct to core treatments.



Aids and Devices

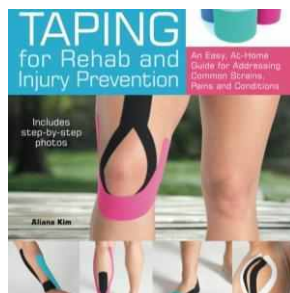


Biomechanical joint pain or instability should be considered for assessment for bracing/joint supports/soles as an adjunct to their core treatments.

Assistive devices (for example, walking sticks and tap turners) should be considered as adjuncts to core treatments

Adjunct therapy to core treatments

Taping



Supportive Shoes



Advice on appropriate footwear (including shock absorbing properties) as part of core treatments



Follow-up and Review

Regular reviews to all people with symptomatic osteoarthritis.

Review the effectiveness and tolerability of all treatments

6 monthly follow up with core treatments like exercises, weight management

COURSE HIGHLY VARIABLE: WORSE, STABLE, BETTER FUNCTIONING

PROGRESSION OF OA DEPENDS ON THE INDIVIDUAL PERSON

SYMPTOMS CAN BE WELL MANAGED WITH MEDICAL TREATMENTS



Coming together is a beginning
keeping together is progress
working together is success.

Henry Ford





Manual therapy in arthritic Conditions

Dr. P. P. Mohanty, Ph.D.

Professor, SVNIRTAR, Cupttack, Orissa

Degenerative joint disease

- Fibrillation
- Fissure
- Synovitis
- Capsular pattern
- Subchondral bone erosion
- Laxed joint
- The first change is loss of mucopoly-sacharides with the loss of elasticity and reduced ability to protect the cells by absorbing shock, leading to further damage.
- The degenerated detached articular cartilage fragment needs to be removed from the joint. So there develops mild to moderate inflammatory process and the synovium gets inflamed.
- As inflammatory process subside the synovial fluid become thick and glue the synovial tissue and ligaments. Adhesion formation limits joint mobility. In chronic stage of disease fibrosis and thickening of capsule and intracapsular structures lead to stiffness.
- As bone get involved in disease process and there is formation of new extra bone on trabeculae in the subchondral bone, gradually it leads to subchondral sclerosis, formation of cyst like bone cavities and development of osteophytes.

Inflammatory arthritis

- anti-citrullinated protein antibodies (ACPAs) ACPA occurs as a result of an abnormal antibody response to a range of citrullinated proteins, including fibrin, vimentin, fibronectin, Epstein-Barr Nuclear Antigen 1 (EBNA-1), α -enolase, type II collagen, and histones, all of which are distributed throughout the whole body. ACPA production has been associated with genetic and environmental factors.
- Joint swelling is the external reflection of synovial membrane inflammation following immune activation.
- The fulminant stage contains hyperplastic synovium, cartilage damage, bone erosion, and systemic consequence

Factors responsible for stability

- Bony congruicity





- Capsule & ligaments
- Muscles
- Cohesion
- Atmospheric pressure

Acute synovitis

- Joint assumes resting position
- Inhibition of muscle action due to pain
- Limitation of motion
- Impaired joint stability
- Impaired fluid exchange
- Loss of proprioception
- Capsular contracture, degeneration of articular cartilage

Physiotherapy

- Rest
- Non-weight bearing movements
- Modalities
- No manual therapy

Chronic stage

- Joint protection
- Strengthening
- Mobilisation
- Stretching
- Proprioceptive training

DJD

- Joint protection
- Strengthening
- Mobilisation
- Stretching
- Proprioceptive training





Clinical Perspectives of Post OP Rehabilitation- TKR

Dr. Neeraj Athavale (PT)

Associate Professor, Bharati Vidyapeeth School of Physiotherapy Deemed to be University, Pune

Contents

- Overview of TKR
- Importance of Prehabilitation.
- Outcome Measures
- Precautions after TKR
- Goals of Rehabilitation.
- Protocols
- Recent Advances
- Summary

Overview of TKR

- TKR aims to improve the quality of life of individuals with end-stage osteoarthritis by reducing pain and increasing function.

Kellgren-Lawrence (KL) grading scale					
	Grade 1	Grade 2	Grade 3	Grade 4	
CLASSIFICATION	Normal	Doubtful	Mild	Moderate	Severe
DESCRIPTION	No features of OA	Minute osteophyte: doubtful significance	Definite osteophyte: normal joint space	Moderate joint space reduction	Joint space greatly reduced subchondral sclerosis

TKR based on involved compartment



Unicompartmental



Bicompartamental



Tricompartamental





Implant Design



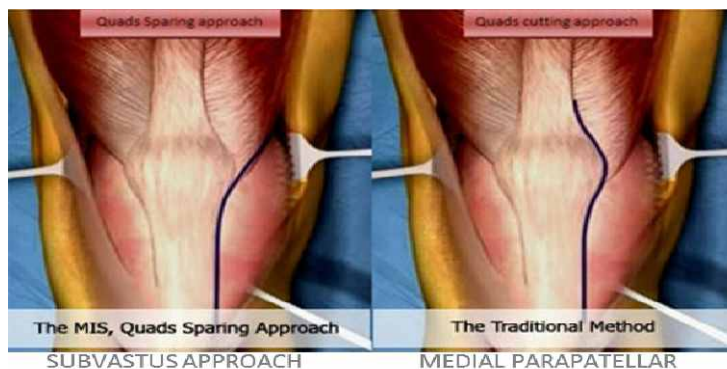
Constrained



Semiconstrained

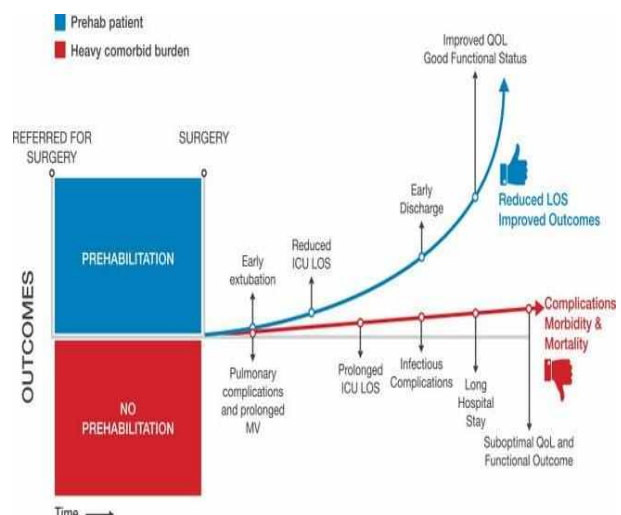


Unconstrained



Prehabilitation

- Post-surgical rehabilitation exercises may be taught before surgery, so that patients may perform the appropriate exercises more effectively immediately after TKR surgery.
- A pre-surgical training programme may also be used to optimize the functional status of patients to improve post-surgical recovery.
- Pre-surgical training programmes should focus on postural control, functional lower limb exercises and strengthening exercises for bilateral lower extremities





Outcome Measures

Knee disability and Osteoarthritis Outcome score (KOOS)

Timed Up & Go Test (TUG)

Six Minute Walk Test

Visual Analogue Scale (VAS)

Precautions after TKR

- Monitor the incision for signs of infection including: redness, discoloration, or excessive drainage or pus.
- Do not apply any form of heat to the knee or aggressively massage it for the :first 2-3 weeks.
- No direct weight bearing on the operative knee (i.e. kneeling, Quadripod Position).
- Do not place a pillow under the operative knee while sleeping or resting.
- You want to allow the knee straighten as much as possible. You may sleep with a pillow between your knees for comfort.

Stair Climbing

Goals of Rehabilitation

- Prevent hazards of bedrest like DVT, pulmonary embolism, pressure sores.
- Assist with adequate and functional range of motion.
- Eliminate pain
- Strengthen the knee musculature.
- Assist patient in achieving functional independent activities of daily living.
- Normalize gait mechanics.

Protocol

- Maximum Protection Phase (Day 1-4 weeks)
- Moderate Protection Phase (4-8 Weeks)
- Minimum Protection Phase (8-12 Weeks)

Phase I





- The geko™ Electro-Stimulation Device for Venous Thromboembolism Prophylaxis: A NICE Medical Technology
- Guidance; Appl Health Econ Health Policy (2015) 13:135–147 DOI 10.1007/s40258-014-0139-0

Phase II



Phase III





Recent Advances

Use of Exercise Therapy

- The primary purpose of exercise therapy is to maximize early ROM, improve strength and pain, and to normalize gait mechanics. While there is much debate as to the use of an appropriate regimen, there is a consensus that postoperative exercise should consider patient-specific goals in addition to having a long-term focus on strength and function.
- Westby MD, Brittain A, Backman CL. Expert consensus on best practices for post-acute rehabilitation after total hip and knee arthroplasty: a Canada and United States Delphi study. Arthritis Care Res (Hoboken) 2014;66(3):411–423

Balance Training

- Studies have demonstrated that balance training may aid in postoperative functional recovery and rehabilitation. These improvements have the potential to restore joint proprioception and postural control.
- Piva SR, Gil AB, Almeida GJ, DiGioia AM III, Levison TJ, Fitzgerald GK. A balance exercise program appears to improve function for patients with total knee arthroplasty: a randomized clinical trial. Phys Ther 2018;90(6):880–894

Continuous Passive Motion (CPM)

- CPM has been a long-standing approach utilized in the recovery of TKR patients. While some may argue for the benefits of CPM in the acute in-patient phase, its degree of long-term advantage still remains controversial. More recent literature has suggested that CPM use may be associated with increased postoperative blood drainage, increased analgesic use, and persistent





swelling.

- Joshi RN, White PB, Murray-Weir M, Alexiades MM, Sculco TP,
- Ranawat AS. Prospective Randomized Trial of the Efficacy of Continuous Passive Motion Post Total Knee Arthroplasty: Experience of the Hospital for Special Surgery. J Arthroplasty 2015; 30(12):2364–2369

Neuromuscular Electrical Stimulation (NMES)

Patients who are unable to voluntarily activate the quadriceps muscle immediately after TKA may benefit from early intervention with NMES. It can be easily administered following basic instruction and has the potential to mitigate loss of quadriceps strength. Differences in the design of NMES protocols may result in conflicting findings.

- Further research is needed to determine specific parameters of NMES, such as duration, timing, and intensity, and to also establish its long-term impact on patient outcomes.
- Stevens-Lapsley JE, Balter JE, Wolfe P, Eckhoff DG, Kohrt WM. Early neuromuscular electrical stimulation to improve quadriceps muscle strength after total knee arthroplasty: a randomized controlled trial. Phys Ther 2017;92(2):210–226

Cold Therapy and Compression

- Most studies suggest that cryopneumatic therapy is effective for postoperative pain relief and function, particularly as it decreases the metabolic activity of local tissues while providing external support and limiting the accumulation of soft-tissue swelling.
- Bech M, Moorhen J, Cho M, Lavergne MR, Stothers K, Hoens AM. Device or ice: the effect of consistent cooling using a device compared with intermittent cooling using an ice bag after total knee arthroplasty. Physiother Can 2015;67(1):48–55

Instrument-Assisted Soft-Tissue Therapy

- This is a very useful modality for patients with reduced ROM at 4 to 6 weeks postoperatively.
- Rehabilitative Guidelines after Total Knee Arthroplasty: A Review Jaydev B. Mistry et.al J Knee Surg 2016;29:201–217.

Summary

- Recovery of strength and ROM after TKA can be achieved by a combination of modalities. Not all forms of rehabilitation may apply to every patient who undergoes TKA, given the potential presence of additional comorbidities.
- Proper instruction and commitment to rehabilitation can potentially help patients achieve, or even surpass, their preoperative activity levels.





References

- Rehabilitative Guidelines after Total Knee Arthroplasty: A Review Jaydev B. Mistry et.al J Knee Surg 2016;29:201–217.
- Westby MD, Brittain A, Backman CL. Expert consensus on best practices for post-acute rehabilitation after total hip and knee arthroplasty: a Canada and United States Delphi study. Arthritis Care Res (Hoboken) 2014;66(3):411–423
- Piva SR, Gil AB, Almeida GJ, DiGioia AM III, Levison TJ, Fitzgerald GK. A balance exercise program appears to improve function for patients with total knee arthroplasty: a randomized clinical trial. Phys Ther 2018;90(6):880–894
- Stevens-Lapsley JE, Balter JE, Wolfe P, Eckhoff DG, Kohrt WM. Early neuromuscular electrical stimulation to improve quadriceps muscle strength after total knee arthroplasty: a randomized controlled trial. Phys Ther 2017;92(2):210–226





"RA hand & OA Knee – An Orthotist's Perspective"

Lukesh Bhuyar (MPO)

Prosthetist & Orthotist, Department of Prosthetics & Orthotics,
All India Institute of Physical Medicine & Rehabilitation, Mumbai.

INTRODUCTION

World Health Organization (WHO)

- Orthotics: Orthotics is a medical specialty that focuses on the design and application of orthoses.
- Orthosis: (plural: orthoses) is "an externally applied device used to influence the structural and functional characteristics of the neuromuscular and skeletal system".
- Orthotist: Primary medical clinician responsible for the prescription, manufacture and management of orthoses.
- Orthoses are offered as custom-fabricated products, semi-finished products or finished products.

Ref: "Suggested Guidelines for the Prescription of Orthotic Services, Device Delivery, Education, and Follow-up Care: A Multidisciplinary White Paper". Military Medicine. 181 (2 Suppl): 11– 7. doi:10.7205/MILMED-D-15-00542. PMID 2683573

Arthritis, Osteoarthritis and Rheumatoid Arthritis

Arthritis

- ✓ Inflammation of one or more joints, causing pain and stiffness that can worsen with age.
- ✓ Different types of arthritis exist, each with different causes including wear and tear, infections and underlying diseases.

Osteoarthritis

- ✓ Most common form of arthritis.
- ✓ In osteoarthritis, the cartilage in the joints wears away, causing the bones to rub against each other which causes pain and stiffness.

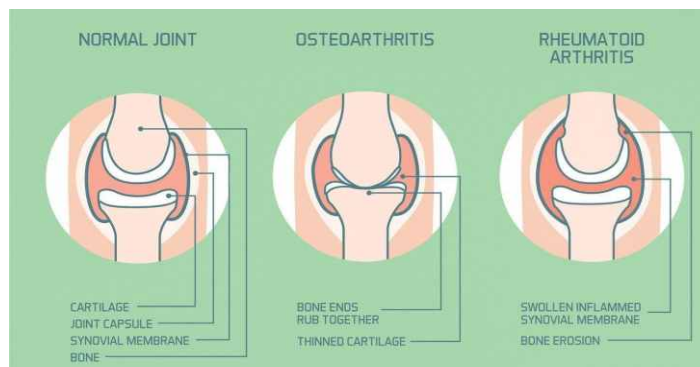
Rheumatoid arthritis

- ✓ Systemic disease where the body produces excessive inflammation in and around the joints, leading to deformities.
- ✓ In advanced cases, the disease process may cause tendon rupture or tendon subluxation and even joint destruction.





Arthritis, Rheumatoid Arthritis and Osteoarthritis



The AFFECTING JOINTS

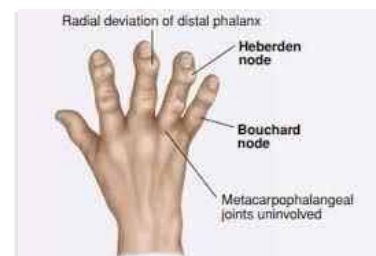
Rheumatoid arthritis

- Commonly affects the wrist joints and the metacarpal (MCP) joints of the hand.
- The PIP joints in the fingers may display:
- The Boutonniere deformity.
- The Swan Neck deformity.



Osteoarthritis

- In the hand, it commonly affects the small finger joints and/or the base of the thumb:
- The Proximal interphalangeal (PIP) joint can be affected by bony nodules called Bouchard's nodes.
- The Distal interphalangeal (DIP) joint might be affected by Heberden's nodes.
- The carpometacarpal (CMC) joint of the thumb can be affected by basilar joint arthritis.



HOW DOES AN ORTHOSIS WORK?

Immobilization of the affected joints by an orthosis can provide pain relief by eliminating the rubbing of bone on bone.

Orthoses can offer stability to a weakened joint and help to hold the joint in its normal alignment, preventing unwanted postures.

Orthoses can also offer a comfortable resting position for the entire hand and wrist at nighttime, reducing symptoms and allowing for restful sleep.





ORTHOTIC MANAGEMENT AND PRINCIPLES IN RHEUMATOID ARTHRITIS

OM depends on which joints are affected/ involved.

Wrist orthoses and resting hand orthoses can be helpful for patients with wrist pain and/or pain in the entire hand.

Thumb orthoses help with arthritis of the base of the thumb.

The fingers can be benefited from individual finger immobilization orthoses or from specific orthoses designed to correct the unwanted posture of a swan neck or boutonniere deformity.



ORTHOTIC and SPLINTING GOALS

The goals of the orthosis should be patient-specific and might include the following:

- Orthosis should provide pain relief and symptom relief.
- Should Improve positioning for functional tasks.
- Should Stabilize a weak joint.
- Should Realign a deformity in a joint.
- Should Prevent unnecessary joint motion.



BENEFITS OF ORTHOTIC MANAGEMENT IN RA BESIDES PAIN RELIEF

- Wearing the orthosis might enable the patient to do an activity that they had not been able to do previously due to pain, such as holding a knitting needle or painting brush.
- An orthosis that helps to position the fingers out of the swan neck or boutonniere deformity will allow for greater grasp and release.
- Ultimately, an orthosis can help to prevent an abnormal posture from becoming worse.



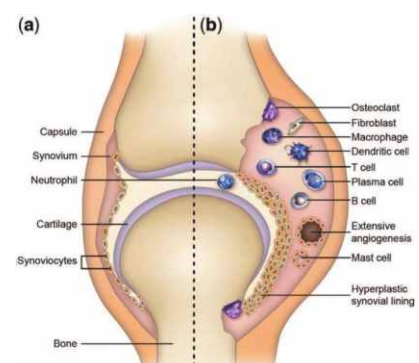
OSTEOARTHRITIS of KNEE

Osteoarthritis is a degenerative disease occurring in older adults.

Osteoarthritis affects 33.6 percent of the persons older than 65 years of age.

Characterized by articular cartilage degradation and bone hypertrophy in the margins (i.e. osteophytes).

The overall effect of these changes is to alter the distribution of





the loads over the articular surface.

Symptoms includes pain that is worsen with use and better with

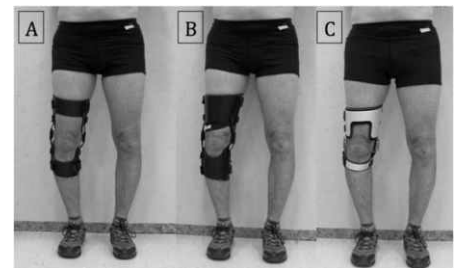
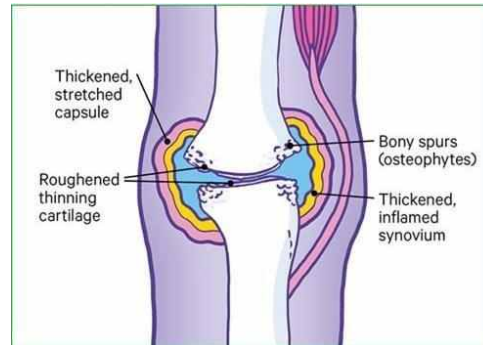


Figure 25.7 Unloader One knee osteoarthritis brace with Sensil silicone liner. (Courtesy of Ossur.)

STAGES (w.r.t severity of disease)		
Indirect (mild)	Direct (mild – moderate)	Corrective (moderate - severe)





Can be useful in alleviating the signs of tibiofemoral and patellofemoral OA by decreasing the load in the more affected compartment, improving proprioception.

The degree of correction can be adjusted by single or double upright hinges, dynamic force straps or femoral condyle pad adjustments.

For mild to moderate OA knee pain, knee braces with additional side-to-side hinges can be used.

These braces are also usually constructed of elastic or neoprene and offer increased stability from addition of flexible or rigid struts which are built into either side of the knee brace.

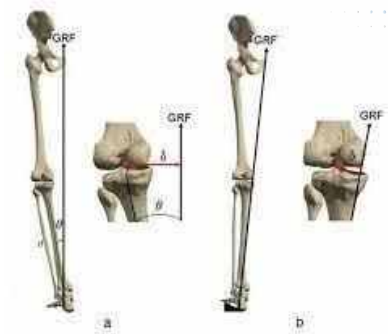
Hinged fabric knee supports are ideal for patients struggling with generalised OA knee pain where an element of instability of the joint is felt.

Some knee braces have buckles to enable suspension of the brace on limbs that enable patients with reduced grip strength to adjust the straps.

Other braces have extension stop to prevent painful full extension. Gel pads can dissipate load over a larger area to improve comfort over the femoral condyles.

More recent designs are made up of lightweight materials, a single upright brace is not effective in stabilization of the knee joint.

These advances have improved tolerance and compliance in comparison with prior brace designs and are now considered in the orthotic prescription

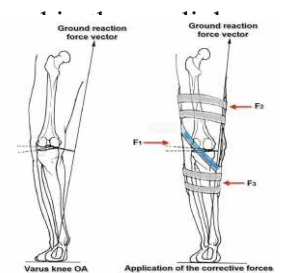


BIOMECHANICAL PERSPECTIVE OF KNEE BRACING

There are several studies which focus on the effects of bracing in knee OA in terms of pain, pathomechanics and mobility limitations.

The cardinal signs of OA are joint space narrowing and progression with the loading, results show adjustment of the hinge in the frontal plane has a greater effect on the knee compartment than the strap adjustments but both are necessary for the optimal efficacy of the brace.

Several studies suggested that there is reduction in the external knee moment of more



ORTHOTIC USE DURATION AND OUTCOMES





Is there immediate relief of symptoms with an orthosis?

- ☉ Patients with severe symptoms should wear the orthosis all of the time initially.
- ☉ Simply wearing the orthosis will not offer immediate relief, but over time, the patient will notice a lessening of the symptoms.
- ☉ The inflammation in the joint might settle down a bit due to the immobilization provided by the orthosis.
- ☉ Patients might notice decreased swelling and stiffness.
- ☉ After a few weeks, they might not need to wear the orthosis all of the time, only when there is a



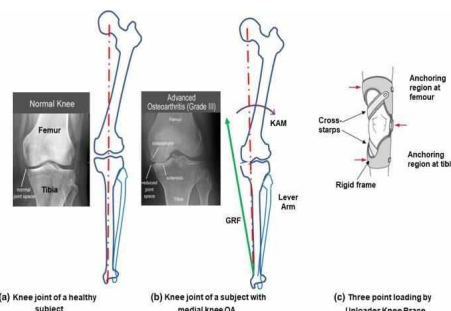
□□

Evidence Based Results

- ☉ Osteoarthritis patients who use unloader knee braces have demonstrated significant improvements in quality of life as documented through the Short-Form, higher physical health through the physical component, and functional improvements in WOMAC scores. (Briggs KK, Matheny LM, Steadman JR. Improvement in quality of life with use of an unloader knee brace in active patients with OA:)
- ☉ Valgus knee bracing has been shown to provide significant pain relief for medial compartment osteoarthritis, with a medial single-hinge application showing stronger evidence of the brace effect compared with a lateral hinge application, though no difference in tibial-femoral angle or joint space was seen on radiographic analysis. (Steadman JR, Briggs KK, Pomeroy SM, et al. Current state of unloading braces for knee osteoarthritis. Knee Surg Sports Traumatol Arthrosc. 2016;24:42–50)
- ☉ Greater varus angulation of the hinge leads to increased medial compartment unloading and further reduction in external knee varus. (Pollo FE, Otis JC, Backus SI, et al. Reduction of medial compartment loads with valgus bracing of the osteoarthritic knee. Am J Sports Med. 2002;30:414–421)

References

1. 25. Self BP, Greenwald RM, Pflaste DS. A biomechanical analysis of a medial unloading brace for osteoarthritis in the knee. Arthritis Care Res. 2000;13(4):191–7. 26.
2. Rodriguez-Merchan EC, De La Corte-Rodriguez H. The role of orthoses in knee osteoarthritis. Hosp Pract (1995).





2019 Feb;47(1):1-5. doi: 10.1080/21548331.2018.1527168. Epub 2018 Sep 29. PMID: 30244620.

3. Guilak F. Biomechanical factors in osteoarthritis. Best Pract Res Clin Rheumatol. 2011;25(6):815-823. doi:10.1016/j.berh.2011.11.013
4. <https://lermagazine.com/article/offloadingstrategies-for-knee-osteoarthritis>
5. https://www.ijhsr.org/IJHSR_Vol.10_Issue.9_Sep2020/27.pdf
6. <https://www.anatomicalconcepts.com/blog/2019/6/26/the-knee-orthosis-for-when-knee-replacement-is-not-an-option>.





National Research Conference on Arthritis

Index: Teachers & PhD Category

Presentation Code	Name of Author	Title
COPT/NARC/T-142	Dr. Sumedh Kumar B. Waghmare	Athletes With Osteoarthritis (Oa): Health Related Quality Of Life
COPT/NARC/T-93	Dr. Rutu Trivedi	Implementation Of Auricular Acupuncture (Aa) And Interferential Therapy (Ift) In Pain Management Of Patients With Chronic Knee Osteoarthritis(Oa)
COPT/NARC/PhD-79	Dr.Abha Khisty	Assessment Of Kinesiophobia In Acute Lumbar Spine Arthritis
COPT/NARC/T-89	Dr. Aditi Khot	Effect Of Aquatic And Land-Based Exercise In Patients With Knee Osteoarthritis: A Scoping Review.
COPT/NARC/T-91	Dr. SukhpreetPabla	Rehabilitation Of Hand Rheumatoid Arthritis: A Scoping Review
COPT/NARC/T-22	Dr.Pradnya Mahajan	Prevalence Of Kinesiophobia And Its Correlation With Physiotherapy In Post-Operative Total Knee Arthroplasty (Tka) Patients - A Cross Sectional Study
COPT/NARC/T-40	Dr. Mrunmayee Mande	Effectiveness Of Two Different Quadriceps Strengthening Exercises On Pain And Functional Activity In Patients With Knee Osteoarthritis
COPT/NARC/T-80	Dr. Pradnya Yashwant Dumore	Risk Of Fall & Balance Among Obese And Non-Obese Rural Elderly Individuals With Knee Osteoarthritis
COPT/NARC/T-121	Dr Shweta Prakash Pachpute	Effects Of Conventional Physiotherapy Versus Proprioceptive Neuromuscular Facilitation And Conventional Physiotherapy On Pain And Function In Patients With Knee Osteoarthritis
COPT/NARC/T-98	Dr. Archana Bodhale	Comparison Of Effects Of Interferential Therapy (Ift) And Combination Therapy (Ift+Ultrasound Therapy)On Pain, Range Of Motion And Function In Patients Withosteoarthritis Of Knee
COPT/NARC/PhD-57	Dr Sandeep B. Shinde	Pain- Related Gait Adaptations In Bilateral Osteoarthritis Of The Knee Joint
COPT/NARC/T-19	Dr.Tanvi Banker	Effectiveness Of Strengthening Of Chief Pelvic Stabilizer In Osteoarthritis Knee
COPT/NARC/PhD-74	Dr. Parul Sharma	A Multidisciplinary Approach To The Treatment Of Knee Osteoarthritis
COPT/NARC/T-118	Dr. Ashish WasudeoraoBele	A Combined Effect Of Tens And Faradism Under Pressure In 65 Years Old Female With Polymyalgia Rheumatica Having Lower Limb Oedema
COPT/NARC/T-31	Dr. Chetna Seju	Pre-Disposing Factors For Knee Osteoarthritis: A Literature Review





COPT/NARC/T-143	SteniSackiriyas	A Comparison Of Ten Minutes Of Vibration And Squat Exercise On Femoral Cartilage Thickness In Healthy Young Adults
COPT/NARC/PhD-44	Dr. Charu Gera	Efficacy Of Dry Needling In Knee Osteoarthritis: A New Perspective: A Pilot Randomised Control Trial
COPT/NARC/T-124	Dr. Nivedita Chandrapal Singh	Comparative Effect Of Medial And Lateral Patellar Taping In Individuals With Patellofemoral Pain Syndrome
COPT/NARC/T-137	Dr. Pratima S. Sarwadikar	The Proactive Oa Prevention Strategies For Elderly With Osteoarthritis Of Knee: Rural Population
COPT/NARC/PhD-29	Dr. Jaspreet Kaur Kang	The Perceptions And Knowledge Of Physiotherapist Regarding Exercise And Joint Health In Rheumatoid Arthritis Patients In India
COPT/NARC/T-116	Dr Chaitali Sunil Neve	A Pre And Post Operative Assessment Of Static And Dynamic Foot Position And Function In Patients With Total Knee Arthroplasty: An Explorative Study
COPT/NARC/T-21	Dr.Mukesh Shinde	Quality Of Life And It's Association With Physiotherapy Treatment In Patients After Total Knee Replacement - A Cross Sectional Study
COPT/NARC/T-39	Dr. Jaspreet Kaur	Role Of Physiotherapy In Temporomandibular Joint Arthritis: A Review On Reviews
COPT/NARC/T-111	Dr. Shrikant B. Darade	Effectivness Of Community Based Intervention On Falls Cum Multiple Arthritis In Community Living Older Adults – Rct





Efficacy of dry needling in knee osteoarthritis: A new Perspective: A Pilot Randomised control trial

Charu Gera (PT)1, Manoj Malik (PT)2

Assistant Professor and Ph.D. Scholar Guru Jameswar University of Sciences & Technology Hisar, Haryana.

ABSTRACT

Background: Knee osteoarthritis (KO) is a syndrome clinically characterized by the presence of pain, limitation of movements and disability. Few studies have investigated the dry needling (DN) approach on knee osteoarthritis (KO) patients. The study's aim was to evaluate the efficacy of adding DN to a therapeutic exercise protocol in the treatment of KO in older adults.

Materials and Methods : A Single –blinded randomised controlled Pilot trial was done in accordance with CONSORT (Consolidated Standards of Reporting Trials) guidelines 2010. Twenty patients of knee osteoarthritis of age group between 45-60 yrs with 'Intention to treat Analysis' were recruited in this trial. The participants were randomly allocated into two groups: Experimental group (n=10) and Control group (n=10). Experimental group received sessions of Dry needling with customised knee strengthening exercise protocol for 3 weeks whereas Control group received only Knee strengthening exercise protocol.

Outcome measures: outcome measures were Pain and Range of Motion were used to assess the efficacy of dry needling.

Results : Between-group differences were evaluated by using an Independentt- test. Experimental group showed a statistically significant improvement in Pain and ROM as compared to control group in terms of pain.

Conclusion: This study concluded that the use of DN with knee exercises may reduce the pain intensity and relevant improvement in range of motion after 3 weeks as compared to control group.

Keywords: dry needling, knee osteoarthritis and Randomised control trial





Pain- Related Gait Adaptations in Bilateral Osteoarthritis of the Knee Joint

Dr. Sandeep B. Shinde (PT)

Assistance Professor and Ph.D, Scholar Krishna Institute of Medical Sciences, Deemed to be University, Karad

ABSTRACT

Background: The Knee is the weight-bearing joint that is very frequently affected by osteoarthritis (OA). Symptoms of pain, morning stiffness of short span and physical dysfunction in the activities of daily living (ADL) can have an impact on all aspects of the well-being, affecting quality of life. Various studies have commonly reported early pain management of OA Knee but knowledge gap exists regarding the various pain-related gait adaptations in individuals with bilateral OA of Knees.

Objective: To study various literatures and summarize about the various pain-related gait adaptations that are seen in bilateral osteoarthritis of the knee joint.

Methods: Research articles that focused on various gait variations in bilateral knee osteoarthritic patients were selected to be reviewed. Databases like Pubmed and Physiotherapy Evidence Database (PEDro) was used to make an electronic search for the terms 'osteoarthritis', 'knee', 'pain' and 'gait'. In addition, the reference list was mentioned in the study as an overview.

Results: From all the references acquired for this study most of them focused more over the early management of pain but none has reported the long term consequences of the various gait adaptation secondary of the OA Knee pain. Few studies have mentioned about gait patterns to have greater Knee flexion at heel strike, reduction in the speed and cadence while walking. Also they have highlighted greater activation of the lateral musculature as maximum patient tend to have Medial compartment's OA Knee.

Conclusion: OA patients use predominantly lateral muscle activation during stance which may aid in stabilizing the lateral aspect of the knee. Kinematic alterations in patient's gait may occur secondary to the severity of pain.

Keywords: Weight-bearing joint, kinematic alterations, arthritis, stance, cadence.





A Multidisciplinary Approach to the Treatment of Knee Osteoarthritis

Dr. Parul Sharma (PT)¹, Dr. Rajiv tonk (PT)², Dr. Manoj Malik (PT)³, Dr. Shweta Sharma (PT)⁴, Dr. Jaspreet Kaur (PT)⁵

¹PhD Scholar, School of Physiotherapy, ²Dean & Professor, School of Pharmaceutical Chemistry, ³Assistant Professor, Department of Physiotherapy, Delhi Pharmaceutical Science and Research University, New Delhi,

⁴Assistant Professor, Department of Physiotherapy, ManavRachna international institute of research and Studies,

⁵Associate Professor, Department of Physiotherapy, Delhi Pharmaceutical Science and Research University, New Delhi.

ABSTRACT

Background: Osteoarthritis (OA) is a common problem in society and can lead to significant disability and impairment of a patient's capacity to perform activities of daily living (ADLs). Ultimately, cartilage, synovium and bone are all involved in the progression of OA and the debility that can be associated with it. Understanding the pathogenesis of OA is essential when considering the various options potentially available to treat the symptoms.

Methods: Randomized controlled trials were included. Searching done by Google scholar, Pub med, Springerlink, Science direct (database), Taylor & Francis and Pedro (database) from 2011 to 2021.

Result & Discussion : Present outcomes show that physiotherapy treatment is an effective technique in reducing pain in patients with Knee OA without adverse effects. After implementing the inclusion and exclusion criteria, 100 articles were retrieved using the key words, but only 15 articles were selected for the study.

Conclusion: Electrotherapy modalities in conjunction with exercise therapy programs designed for treating knee OA patients proved to be superior to exercise alone at improving quadriceps muscle activation by reducing pain and increasing function during exercise.

Keywords: Knee pain, Knee Osteoarthritis, Knee exercises & Pharmacological treatment.





Assessment of Kinesiophobia in Acute Lumbar Spine Arthritis

Dr. Abha Khisty (PT)¹, Kush Jadhav (PT)², Dr. Seema. Saini (PT)³, Dr. Tushar J. Palekar (PT)⁴

¹Assistant Professor and Ph.D. Scholar, ²Intern, ³Professor, ⁴Principal and Professor, Dr.D.Y.Patil College Of Physiotherapy, Pune

ABSTRACT

Background: Kinesiophobia is a condition in which a patient has an excessive, irrational and debilitating fear of physical movement and activity resulting from a feeling of vulnerability to painful injury or re-injury. It is stated that pain-related fear is more disabling than pain itself. Due to chronic nature of cervical and lumbar spine arthritis, the fear of movement on false presumption likely to cause pain, renders the patients to get stuck in this vicious cycle of pain-immobility-fear of movement-immobility. Based on biopsychosocial model of pain, it is important to assess the fear of movement during early stages of arthritis to prevent chronic disability. It should be practised as standard care for traumatic and non-traumatic arthritic conditions. This study was aimed to assess kinesiophobia in lumbar spine arthritis of acute nature to help develop clinical practise dimensions in this domain.

Method : A cross sectional study was conducted on 100 patients from 50 to 65 of years age, with acute lumbar spine arthritis, showing radiographic changes on X-ray and standard symptomatic picture of lumbar spine arthritis were included in the study. Patients with traumatic and operative spine conditions were excluded. All patients were assessed for pain, cognitive status and kinesiophobia. TAMPA scale was used as primary outcome measure for kinesiophobia with health-related quality of life (HRQL) as secondary outcome measure using HROLQ.

Result: Descriptive statistics were reported using frequency distribution by “Primer of biostatistics” software. Out of a total of 100 patients, 30% of patients had TAMPA score between 11 to 22 indicating mild kinesiophobia, 58% of patients between 23 to 33 with moderate kinesiophobia and 12% with score from 34 to 44 indicating severe kinesiophobia.

Conclusions: Fear of movement due to pain in arthritis is a novel finding in the symptomatic picture of arthritis. Along with emerging evidence, our study findings reported a higher and more severe degree of kinesiophobia. Therefore, an early detection and timely management of this aspect of pain and fear of movement related pain should be an integral part of pain Education and movement restoration in arthritic problems.

Keywords: Movement fear, Pain, Disability





The Perceptions and Knowledge of Physiotherapist Regarding Exercise and Joint Health in Rheumatoid Arthritis Patients in India

Dr. Jaspreet Kaur Kang (PT)¹, Dr. Neeta J Vyas (PT)²

¹PhD Scholar, Gujarat University and Principal, Mahatma Gandhi Physiotherapy College, Memco- Naroda Road, Ahmedabad

²PhD Guide & Professor, Ahmedabad Institute of Medical Sciences, Lapkaman, Ahmedabad

ABSTRACT

Background: Physiotherapy is an effective and safe treatment to prevent disability, increase functional capacity, and provide pain relief; in patients suffering from rheumatoid arthritis (RA). Physiotherapists play a key role in assessing, monitoring, educating and prescribing exercise for RA. A few previous surveys across the globe emphasized on the lack of evidence to guide physiotherapist recognizing the early signs of RA, in knowledge of disease course, and in evidence-based interventions and therefore the ability to manage an individual with RA over the course of the disease. The study aims to investigate physiotherapists' current practice in specific disease-related Knowledge and clinical skills required managing people with RA and extent to which they promote physical activity and exercise.

Method: A cross-sectional national e-survey was sent to physiotherapists regarding their confidence in managing RA patients. Questionnaire Data developed from previous literatures included the following details: years of clinical experience, current RA clinical caseload, and professional qualifications, primary clinical area of practice, relevant treatment options in established or newly diagnosed cases and management goals.

Result: A total of 478 physiotherapist responses were received. 84% agreed to the fact that exercises does play an important role in joint health promotion. Almost 70% strongly agreed to factor that FIIT principal has to be taken in consideration while prescribing exercises. Approximately 48% were familiar with Index that measures disease activity and ACR-preferred tools for functional status assessment in RA. Moreover, 98% were having a clear perspective of different guidelines of management in RA and Osteoarthritis (OA). while considering the choice of treatment physical activity and educational advice were more preferred as compared to the modalities or manual therapy.

Conclusion: The present practices are in lines with the current guidelines for RA management, but still most of them never prescribed high-intensity exercise and lacked knowledge of when to advice appropriate splints/orthoses. Even the recommendations regarding exercises during flares were not clear. So, there's a requirement to develop education and training for constantly upgrading physiotherapists within for the promotion of physical activity in rheumatoid arthritis patients.

Keywords: Rheumatoid arthritis, Physiotherapist, exercise and joint health.





A Comparison of Ten Minutes of Vibration and Squat Exercise on Femoral Cartilage Thickness in Healthy Young Adults

Steni Sackiriyas, (PT), DSc¹, Jacob Dorshorst, (PT) SPT¹, KorlBomkamp, (PT) SPT¹, Sydney Welke, (PT) SPT¹,
Dayna Dols, (PT)SPT¹, Andy Dockendorff, (PT)SPT¹, MaechaelaKolpien, (PT) SPT¹.

¹Physical Therapy Department, Health Professions, University of Wisconsin – La Crosse, USA.

ABSTRACT

Background: Loss of medial femoral cartilage thickness has been associated with radiographic and pain progression in individuals with knee osteoarthritis. Mechanical vibration on cartilage thickness has not been extensively studied in humans. This study aims to determine the effects of passive lower extremity (LE) vibration compared to squat exercise on medial femoral cartilage thickness.

Methods: 26 participants were randomly assigned to squats and vibration groups and performed three sets of 15 repetitions of unweighted squats and 10 minutes of seated vibration to their feet, respectively. Medial femoral cartilage thickness on the right lower extremity was measured using ultrasonography at baseline and post interventions.

Results: A significant group-by-time interaction effect ($p=0.049$) indicated that the change in cartilage thickness from baseline to post differed between the groups. The vibration group demonstrated a moderate increase in cartilage thickness ($p=0.013$; $ES = 0.62$), while the squat group did not demonstrate a change in cartilage thickness ($p=0.838$; $ES = 0.02$).

Conclusions: Preliminary results indicate that mechanical vibration may be beneficial in increasing cartilage thickness.

Key words: Osteoarthritis, Cartilage thickness, Ultrasound





Effectiveness of Strengthening of Chief Pelvic Stabilizer in Osteoarthritis Knee

Dr.Tanvi Banker (PT)¹, Dr.Dibyendunarayan Dhrubaprasad Bid (PT)²

¹Assistant Professor at SPB Physiotherapy college, Surat-(Gujarat), India;

²Senior Lecturer, Sarvajani College of Physiotherapy, Surat-(Gujarat), India.

ABSTRACT

Background: Osteoarthritis knee is the most common degenerative condition affecting the age greater than 40 years leading to pain, functional disability and muscle weakness. Physiotherapists have been exploring different forms of exercise intervention, like conventional exercise, resisted exercise, aerobic exercise etc. Despite the number of studies showing evidence on particular intervention towards outcome measure, evidences are still needed for proving usefulness chief pelvic stabilizer i.e. hip abductor muscle strengthening as a treatment for OA knee patients.

Objective: To evaluate the efficacy of chief pelvic stabilizer i.e. hip abductor muscle strengthening exercises in patient with OA knee.

Intervention: 58 individuals with OA knee were included and allocated to two groups (n=29 in each group). Groups were administered with hip abductor strengthening exercises along with Conventional therapy and Conventional therapy alone for 4 weeks (5 days per week). Hip abductor torque, WOMAC, NPRS, TUG test were used to assess changes between baseline and post intervention.

Results: The experimental group (Group A) was associated with significant greater change in hip abductor torque, WOMAC and TUG test compare to control group (Group B). In NPRS score, change was statistically significant in experimental group but clinical significance was equal in both the groups.

Conclusion: Strengthening of pelvic stabilizer improves the hip abductor torque and functionality in OA knee.

Keywords: OA Knee, hip abductor strengthening, conventional exercises, WOMAC, NPRS, TUG.





Quality of life and its association with physiotherapy treatment in patients after total knee replacement - A Cross Sectional Study

Dr. Mukesh Shinde (PT)

Assitant Professor, Dr. Ulhas Patil College of Physiotherapy, Jalgaon.

ABSTRACT

Background: Degenerative joint disease, or osteoarthritis, is generally the main cause of physical deficiencies among elderly people. The pain and functional limitation caused by this condition, especially in the lower limbs, present a strong correlation with reduced quality of life among these individuals. There are many factors that affect the individual quality of life after TKR like patients psychology behind surgical procedure, poor awareness about physiotherapy rehabilitation procedure. So the purpose of study was to evaluate the quality of life in patients after TKR.

Methods: In this study 72 total knee replacement patients were recruited according to inclusion & exclusion criteria. Inclusion criteria – 1) patient with 1 year post-op total knee replacement (underlying cause knee osteoarthritis) 2) both male & female gender 3) subjects with informed consent. Exclusion criteria- 1) patients with bilateral TKR 2) recent fracture of LL 3) any musculoskeletal & neurological impairment of lower limb 4) psychological ,cognitive & hearing impairment. Collection of demographic data & Communication was done through visiting patient's home and through telecommunication media. Patients were evaluated for quality of life using WOMAC and EQ-5D. To find out association of quality of life with physiotherapy in total knee replacement patients, 72 patients were divided in 2 groups, who received physiotherapy and who didn't. Statistical analysis was done using Chi-square test for association between physiotherapy taken and quality of life. After that results were carried out.

Results: Chi-square test for association between physiotherapy taken and quality of life (EQ-5D) were considered significant. Our results showed that there was significant improvement in the parameter of quality of life of total knee replacement patients who received physiotherapy. Statistically our study showed that out of total sample size i.e.72, according to the outcome of measure WOMAC and EQ-5D score, 46 (63.88%) patient had good quality of life and 26 (36.12) had poor quality of life (P value is <0.05)

Conclusion: The patient who received physiotherapy treatment after TKA seems to show a significant improvement in quality of life. Since pain and function are the most important predictor of improved quality of life and also better dynamic balance as compared to patient who didn't received physiotherapy protocol.

Keywords: EQ-5, Quality of life, Total knee replacement, WOMAC





Prevalence of kinesiophobia and its correlation with physiotherapy in post-operative total knee arthroplasty (TKA) patients - A Cross Sectional Study

Dr.Pradnya Mahajan (PT),

Assitant Professor, Dr.Ulhas Patil College of Physiotherapy, Jalgaon.

ABSTRACT

Background: Kinesiophobia is a condition in which a patient has an excessive, irrational and debilitating fear of physical movement and activity resulting from a feeling of vulnerability to painful injury or re-injury. kinesiophobia had been widely assessed in various conditions including Parkinson's disease, fibromyalgia, spinal stenosis and low back pain but its prevalence and influence on functional recovery after total knee arthroplasty remains unexplored.

Methods: In this cross sectional study, 51 total knee arthroplasty patients were recruited according to inclusion & exclusion criteria. Inclusion criteria- 1) patients with post 6 months of TKA (following knee OA 2) patients with informed consent 3) Both male & female gender. Exclusion criteria- 1) patients with bilateral TKA 2) cognitive & psychological disorder 3) recent history of fracture 4) Any associated neurological & musculoskeletal disorders of lower limb. 5) Hearing impairment. The selected participants were evaluated or assessed for kinesiophobia using Tampa scale of kinesiophobia. Also the patients were divided into 2 groups: Group A- total knee arthroplasty patients who received physiotherapy rehabilitation after total knee arthroplasty and group B- total knee arthroplasty patients who did not received physiotherapy rehabilitation after total knee arthroplasty. Both the groups were evaluated and statistically analyzed using 'Z' test for equality of two proportion.

Results: The results of our study shows that out of total study population 64% of total knee arthroplasty patients had high level of kinesiophobia. The level of kinesiophobia is related with physiotherapy rehabilitation i. e out of 51 patients 33 patients received physiotherapy rehabilitation among them 18 patient had no kinesiophobia and only 15 patients had low level kinesiophobia while those 18 patients who didn't received physiotherapy rehabilitation all 18 had high level of kinesiophobia.

Conclusion: There was presence of kinesiophobia in total knee arthroplasty patients. There was a significant difference in the level of kinesiophobia between post- operative total knee arthroplasty patients who received physiotherapy and those who did not.

Keywords: Kinesiophobia, Physiotherapy Rehabilitation, Total knee arthroplasty, Tampa scale





Role of Physiotherapy in Temporomandibular Joint Arthritis: A Review on Reviews.

Dr. Jaspreet Kaur (PT)

Associate Professor, Department of Physiotherapy,
Guru Jambheshwar University of Science & Technology, Hisar, Haryana

ABSTRACT

Background: Various diseases and dysfunctions of temporomandibular joint (TMJ) are focus of interest to several medical disciplines. These are managed by combination of invasive and non-invasive techniques. Several studies have been done to find out the efficacy of these techniques in the management of TMJ dysfunction. This systematic review and meta-analysis of systematic reviews and meta-analysis aims to evaluate current evidence on physiotherapeutic interventions on various signs and symptoms in patients with TMJ disorders.

Methods: Pubmed, Cochrane Library, PEDro and DOAJ were searched to identify systematic reviews and meta-analysis published during 2010-2021.

Results: Evidence from included systematic reviews and meta-analysis prove that various physiotherapeutic interventions pose significant improvement (SMD: 0.29, 95% CI: 0.03-0.55) when compared with placebo interventions.

Conclusion: Current evidences suggest that various physiotherapy modalities are indeed effective in improving TMJ dysfunctions and diseases.

Keywords: Tempromandibular joint, arthritis, physiotherapy, systematic review





Effectiveness of Two Different Quadriceps Strengthening Exercises on Pain and Functional Activity in Patients with Knee Osteoarthritis

Dr. Mrunmayee Mande (PT)

Assistant Professor, MVP's College of Physiotherapy, Nashik

ABSTRACT

Objective : To compare the effectiveness of quadriceps strengthening exercises and modified quadriceps strengthening exercises with biofeedback on pain and functional activity in patients with knee osteoarthritis

Material And Method: It was an experimental study conducted on 40 osteoarthritic knee patients aged from 50-75 yrs taken from NDMVP hospital and physiotherapy clinic in and around Nashik and they were divided into 2 subgroups and each group consisted 20 patients.

Inclusion Criteria:

Male/female patients between the age group of 50-75 yrs

Confirmatory x-rays showing osteophytes, joint space narrowing (grade ii,iii).

Patients with complaint of unilateral knee pain, stiffness, difficulty climbing stairs, in walking and sitting crossed leg

Exclusion Criteria:

Patients with knee OA surgery, recent knee injury, psychological, neurological, cardiac, vascular and sensory problems

Group 1 - Quadriceps sets with biofeedback

Group 2 - Modified Quadriceps sets with biofeedback

Demographic data, VAS and functional activity by WOMAC SCALE was obtained and consent was taken. Protocol was followed for 2 weeks. Pulsed ultrasound was given with a frequency of 1 MHz, power-2W/cm² with pulsed mode duty cycle-1:4.

Result: Inter- group comparison of difference of mean (Pre Rx-Post Rx) for Functional Disability (WOMAC) Values are Mean \pm Standard deviation. P-values are obtained using unpaired t- test, after confirming the underlying normality assumption. P-value<0.05 is considered to be statistically significant. Inter-group comparison of difference of mean (Pre Rx –Post Rx) for Pain [VAS] of Group 1 & Group 2.

Conclusion: when compared between two groups modified quadriceps sets with biofeedback is more effective in reducing extensor lag, pain and improving functional activity in patients of knee osteoarthritis

Keywords - osteoarthritis, biofeedback, quadriceps strengthening exercises.





Implementation of Auricular Acupuncture (AA) and Interferential Therapy (IFT) in Pain Management of Patients with Chronic Knee Osteoarthritis(OA)

Dr. Rutu Rajeshkumar Trivedi (PT)

Assistant professor, Shama Institute of Medical Sciences, Ahmedabad.

ABSTRACT

Background: Knee osteoarthritis is a major cause of knee pain which accounts for lower extremity disability. Limited disease-modifying treatment exists and still under investigations, and knee OA may progress from a dynamic process of injury and repair the irreversible joint damage requiring joint replacement to treat the unrelenting pain or significant disability. Nonsurgical management is an important first step to prevent disability and maintain quality of life in the growing number of people with knee OA Therefore, alternative non-invasive therapy approaches to reduce pain medications are gaining importance. The current study analyses if auricular acupuncture (AA) or interferential therapy (IFT) does the pain management in patients with bilateral chronic knee osteoarthritis(OA)

Methodology: Patients with painful knee OA were treated with Auricular acupuncture (AA) (group 1) and interferential therapy (IFT) (group 2) additional to standard pharmacological analgesic treatment. In total 8 female and 4 male patients with a mean age of 50.8 years and a mean BMI of 28.9 kg/m² were included. Patients were assigned to one of the groups stratified for age, gender and BMI. Before starting of the active study period and collecting of the initial data on day 1 patients were given treatment protocol for 10 days pre and post data was collected. Pain intensity was recorded using NPRS (numerical pain rating scale)

Result : After the active study period pain scores decreased significantly in within the group analysis in both groups, and in between the group analysis auricular acupuncture showed more significant difference in pain reduction compared to IFT group. At follow up median pain scores further decreased in Auricular group (group 1) with standard deviation 1.1 and remained stagnant in IFT group (group 2) with standard deviation 1.2, Any adverse effects due to AA or IFT were not observe.

Conclusion : The current study indicates that implementation of AA and IFT seems to be beneficial to reduce knee pain but auricular acupuncture therapy if added with conventional physiotherapy treatment it will show more improvement knee function in patients with chronic knee osteoarthritis

Keywords: Osteoarthritis Knee, Auricular Therapy, Interferential Therapy





Comparison of Effects Of Interferential Therapy (IFT) and Combination Therapy (IFT+Ultrasound Therapy) on Pain, Range Of Motion and Function in Patients with Osteoarthritis of Knee

Dr. Archana Bodhale (PT)¹, Dr. Nilima Bedekar (PT)²

1 Assistant Professor, MAEER's Physiotherapy College, Talegaon Dabhade, Pune

2 Professor, Sancheti Institute, Pune

ABSTRACT

Background: Osteoarthritis (OA) is the most common type of arthritis and knee OA, being highly prevalent. Knee OA may progress from a dynamic process of injury and repair to irreversible joint damage requiring joint replacement to treat the unrelenting pain and/or significant disability. Nonsurgical management is an important first step to prevent disability and maintain quality of life in the growing number of people with knee OA. In clinical practice, physiotherapists tailor multicomponent interventions to the needs of the individual with knee OA in order to attain the goals of treatment. Electrotherapy is used as adjunctive treatment in osteoarthritis. Efficacy of therapeutic ultrasound (US) and interferential therapy (IFT) is of particular interest as this is the physical agent most commonly used by physiotherapists for treatment of painful musculoskeletal conditions and, therefore, widely available. Theoretical, biological, and clinical rationales for the use of US and IFT in the management of nonsurgical knee OA have been reported. There is a lack of study stating effects of combination therapy (Interferential Therapy and Ultrasound Therapy) in patients with osteoarthritis.

Objectives: The objective of the study was to evaluate the effects of combination therapy and interferential Therapy individually and comparing on pain, range of motion and function in patients with osteoarthritis of knee.

Methods: A RCT was conducted on 100 patients with osteoarthritis of knee, diagnosis based on the clinical & radiological classification criteria of the American college of rheumatology with grade 2nd and 3rd of osteoarthritis, including both males and females were randomly assigned. Group A was given combination therapy with exercises while Group B received IFT and exercises. Pain (Visual Analogue Scale), ROM (mobile goniometer) and function (Knee Pain Scale) were assessed pre and post intervention 6 days.

Results: Group A and group B showed a significant improvement within the group on pain, range of motion and function ($p < 0.001$) However, there was no significant difference between the two groups in knee range of motion ($p > 0.629$)

Conclusion: Both techniques lessened pain, improved knee range of motion & reduced function ($p < 0.05$). But in comparison, combination therapy was more effective than Interferential therapy.

Keywords: Combination therapy, Osteoarthritis, knee





A Pre and Post Operative Assessment of Static and Dynamic Foot Position and Function in Patients with Total Knee Arthroplasty: An Explorative Study

Dr. Chaitali Sunil Neve (PT)¹, Dr. Sreeraj S. R. (PT)²

¹ Assistant Professor, Dr. Ulhas Patil College of Physiotherapy, Jalgaon

² Professor, YMT College of Physiotherapy, Navi Mumbai

ABSTRACT

Background: Altered foot posture is seen frequently in OA knee patients than healthy adults. The knee malalignment due to tibiofemoral cartilage damage and pain can cause variations in foot posture and function and this may be associated with altered forces transmitted through the knee joint. However, it is unclear whether altered foot posture and function are compensatory mechanism to accommodate knee malalignment. The purpose of this study was to investigate changes in foot posture and function pre and post-realignment of knee following TKA in people with knee OA.

Materials and methods: Twenty patients with knee OA were assessed prior to and 4 weeks after TKA. Foot position measurement was taken by using Foot posture index, arch index, navicular drop test. Patient's gait was recorded by a camera and gait analysis was done using Kinovea software. Foot function was assessed by FAOS.

Results: There were no significant changes in FPI, AI and NDT following TKA, however gait analysis revealed significant changes in ankle ranges during stance phase of gait. Pre and post TKA values of ankle ROM during heel strike were -9.65 ± 5.44 and -6.95 ± 4.08 respectively, during foot flat -13.05 ± 4.87 and -10.75 ± 3.91 respectively, during mid stance -3.55 ± 4.87 and -10.75 ± 3.91 respectively, during heel rise -5.65 ± 4.93 and -2.30 ± 3.91 respectively and during toe off -12.65 ± 9.81 and -14.5 ± 8.97 respectively. There was significant change in post TKA functions of foot and ankle. Pre and post TKA values of FAOS were 60.80 ± 15.43 and 65.25 ± 10.65 respectively.

Conclusions: People with knee OA who underwent TKA demonstrated no change in static foot position but improvement in the range of motion of ankle during stance phase of the gait except in toe off and improved the foot functions.

Key words: Foot Posture, Foot Function, Total Knee Arthroplasty





A Combined Effect of Tens and Faradism Under Pressure in 65 Years Old Female with Polymyalgia Rheumatica having Lower Limb Oedema.

Dr. Ashish Wasudeorao Bele (PT)

Associate Professor & Head, Department of Community
Physiotherapy, Chaitanya Medical Foundation's College of Physiotherapy- 411019.

ABSTRACT

Background: Polymyalgia rheumatica (PMR) is an inflammatory disease that affects the shoulder, the pelvic girdles, and the neck, usually in individuals older than 50 years. Patients often complain of pain and stiffness in the upper arms, neck, pelvic girdle, hips, and thighs. Symptoms are associated with aching and early morning stiffness in the affected musculoskeletal regions. Increases in acute phase reactants (ie, erythrocyte sedimentation rate and C-reactive protein) is a characteristic feature of the disease. The highest incidence is in people older than 65 years, with a peak in the 70–79 year age group. Distal extremity swelling with pitting oedema represents a manifestation of PMR.

Case study: A 65 years old female presented with the complaint of multiple joint stiffness (mostly in Shoulder and Hip, severe in the morning) with multiple joint pain (more in arm and thigh- NPRS: 8/10) since 20 years. Initially she was diagnosed as Rheumatoid Arthritis. She also presented with complaint of bilateral lower limb edema which was of pitting type. On blood investigation the RA factor was negative but the ESR level was significantly increased. She was diagnosed as Polymyalgia Rheumatica. She was under homeopathy medication due to which pain reduced to 4/10 on NPRS, But the lower limb edema exists. So she has been advised for Physiotherapy.

Method: After signing informed consent, she was assessed for her pain on NPRS (4/10) and joint mobility which was reduced. She also assessed for her lower extremity oedema which was pitting type. Along with the general mobility exercises, her oedema was treated with the combined application of TENS & Faradism under pressure. TENS was applied on dorsum aspect of the foot (2 pole) and for faradism, one electrode applied on the planter aspect of the foot and another electrode on the calf muscle. With the help of crepe bandage, compression done and placed the limb in elevated position. The treatment was given for 20 Minutes. The treatment terminated by removing crepe bandage and electrodes and checked for the effect.

Result: Patient showed significant reduction in the lower limb oedema. **Conclusion:** This case study helped to conclude that the combination therapy of TENS and Faradism under pressure produced significant immediate effect in oedema reduction in elderly Polymyalgia Rheumatica patient.

Keywords: TENS, Faradism Under Pressure, Elderly, Polymyalgia Rheumatica, Lower Limb Oedema.





Effects of Conventional Physiotherapy versus Proprioceptive Neuromuscular Facilitation and Conventional Physiotherapy on Pain and Function in Patients with Knee Osteoarthritis

Dr. Shweta Prakash Pachpute (PT)

Professor Dept. of Musculoskeletal, LSFPEF's College of Physiotherapy, Nigdi, Pune.

ABSTRACT

Background – Osteoarthritis (OA) is a progressive joint disorder. Osteoarthritis is a leading cause of pain and disability. The prevalence of osteoarthritis knee was high among elderly population and increased with age (41.1%). The quadriceps muscle strength in osteoarthritis has seen to be lower due to disuse atrophy secondary to pain, quadriceps inhibition, delayed activation of quadriceps onset and muscle impaired proprioceptive activity. Conventional therapeutic Exercise Interventions have proven to be very effective in decreasing pain and improving level of function in patients with knee osteoarthritis. Researches have proven that Proprioceptive Neuromuscular Facilitation can be used in Neuromusculoskeletal conditions. Proprioception is the process by which the body can vary muscle contraction in immediate response to incoming information regarding external force. PNF is known to stimulate proprioceptive receptors within muscles and tendons, thereby improving function and increasing muscle strength, flexibility, and balance. PNF movement patterns briefly stretches muscles before contraction, exciting neuromuscular ending which produce higher levels of force. The movements are executed in diagonal pattern, which reproduces physiological movements. Though PNF is very well established therapeutic method to treat neuromusculoskeletal conditions but the literature available in treatment of knee joint osteoarthritis is very few. So there is a need to find out is there any additional effect of PNF interventions along with conventional physiotherapy in OA Knee patients

Method- 30 samples were selected by random sampling method and then randomly allocated in to two groups. Group A was given Conventional treatment. Group B was given Proprioceptive Neuromuscular Facilitation interventions along with Conventional treatment. The protocol was of 4 weeks with five times weekly for each group. Pre & post treatment assessment of Knee pain and function evaluated by VAS and WOMAC scale

Result- For both Group A (Conventional) & Group B (Interventional) the results were significant ($p < 0.05$) by paired t test. On comparison of both the groups, Group B showed significant improvement than Group A ($p < 0.05$) by Unpaired t test. Conclusion- PNF along with conventional Physiotherapy treatment is an effective therapeutic intervention in relieving pain and improving function, It can be used as an adjunct to Conventional exercises in OA Knee patients.

Key words- PNF, OA, Function





Comparative Effect of Medial and Lateral Patellar Taping in Individuals with Patellofemoral Pain Syndrome.

Dr. Nivedita Chandrapal Singh (PT)

Assistant Professor, Department of Electrotherapy/Neurophysiotherapy, Laxmibai Gorule College of Physiotherapy, Washim.

ABSTRACT

Background: Patellofemoral pain is characterized by anterior or retropatellar pain associated with activities that load the patellofemoral joint, such as ascending or descending stairs, squatting, running and kneeling. Repetitive contacts at any of patellofemoral areas sometimes combined with maltracking of the patella that is either medially or laterally and that is the likely mechanism of patellofemoral pain syndrome (PFPS). So it is necessary to correct that maltracking and realign the patella into correct position.

Method: Twenty patients with the history of PFPS with the informed consent, since more than 1 month in AVBRH Hospital were randomly selected through assessment that was done for the diagnosis of P.F.P.S. using assessment proforma and divided in two groups receiving Medial and lateral patellar taping.

Result: This study revealed that both methods of taping [i.e. medial and lateral] had the significant effect on 7th day as compared to 1st day. Each method of taping significantly decreased pain and improved functional activities [Medial glide $P=0.0042$; $P<0.05$; Lateral glide $P=0.0034$; $P<0.05$]. Both the method improved the function activity score significantly But lateral glide improved more significantly ($F=5.8$; $P<0.05$) compared to Medial taping method ($F=3.8$; $P<0.05$).

Conclusion: This study concluded that, there is significant reduction in pain levels and Improvement in functional activities. Lateral patellar taping is more effective taping than medial patellar taping.

Keywords: Patellofemoral pain Syndrome, Medial patellar taping, Lateral patellar taping.





Pre-Disposing Factors for Knee Osteoarthritis: A Literature Review

Dr. Chetna Seju (PT)

Lecturer in college of physiotherapy SSG Hospital, Baroda, Gujarat.

ABSTRACT

Objectives: The main aim of the study is to find the major pre-disposing factor leading to progression of osteoarthritis of knee for better tomorrow.

Method: Available studies have been searched upto August 2017 in Medline according to specific search strategy. Those studies fulfilling the inclusion exclusion criteria were assessed and included and the necessary results are been extracted based on best evidence. Various factors like varus or valgus malalignment, varusthrust, increased level of hyaluronic acid level and quadriceps strength are some factors extracted for the OA knee

Result: Of 250 articles identified, 10 met the inclusion and exclusion criteria. best evidence shows that varus/valgus malignment, thrust, levels of hyaluronic acid and strength of quadriceps matter in pre-disposing factors, however the major factor was varum alignment of knee in progression of OA knee causing pain and limiting the physical function with radiological changes visible.

Conclusion: Strong evidences found for multiple pre-disposing factors of OA knee by the evidences but the major factor turned to be varum alignment in knee for progression of OA knee

Keywords: OA knee, pre-disposing factors, varum malalignment





Athletes with Osteoarthritis (OA): Health Related Quality of Life

Dr. Sumedhkumar B. Waghmare (PT)

Assistant Professor, Aparampar College of Physiotherapy, Nanded.

ABSTRACT

Background: Osteoarthritis (OA) is defined as a conditions that lead to joint symptoms and signs associated with a defective articular cartilage and related changes in bone morphology. It is considered the most common type of arthritis, also the most significant health problems that affects our modern world. The hip and knee, the main weight-bearing joints, are most commonly affected. Previous trauma to the joints is strongly associated with OA. Participation in various sports activities, like fitness activities, running and cycling, football etc. is on the rise.

Method: A 120 participants were included with knee pain and previous knee injury. Cross-sectional study was performed on the baseline questionnaire to identify relationships between HRQOL outcomes in athletes diagnosed with OA knee pain. This HRQOL differences were detected between groups based on severity of knee Pain, injury status, and Intervention.

Result: There was a significant association between severity of OA knee pain and HRQOL in athletes.

Conclusion: This study shows that the knee injury negatively affects QoL for athletes, especially in physical and social aspects but positively affects in mental status and participation status in sports with severe knee pain. Monitoring OA among athletes should be essential to prevent symptoms worsening further. The self-education, prevention strategies and personal care of mental health problems also be addressed to the athletes is important.

Keywords: Athletes, Osteoarthritis, HRQoL.





Effectiveness of Community Based Intervention on Falls cum Multiple Arthritis in Community Living Older Adults – RCT

Dr. Shrikant B. Darade (PT)¹, Dr. Shyam D. Ganvir (PT)²

¹ Assistant Professor, Motiwala College of Physiotherapy, Nashik

² Principal cum Professor, DVVPF's COPT, Ahmednagar

ABSTRACT

Introduction : Falls are costly and have potentially devastating physical, psychological, and social consequences. Nonfatal falls often lead to physical injury (e.g., fractures), reduced levels of activity, loss of confidence, and altered lifestyle in elderly people. Although most falls involve multiple factors, causes of falling are often categorized into intrinsic (personal) and extrinsic (environmental) factors. Some examples of intrinsic factors include balance impairment, neurological disorders, sensory deterioration, musculoskeletal disorders, postural hypotension, and medication use. Examples of extrinsic factors include ill-fitting footwear, poor lighting, slippery surfaces, and inappropriate furniture. Research shows that balance impairment is a major contributor to falling in elderly people.

Methodology : This randomized control trial study conducted at community level where 62 community older adults age from 65 to 75 year, self-reported history of fall in previous 1 year (less than 3) and ability to walk independently for 10m were included and the older who is not able to follow commands, with severe cardiac, neurological, musculoskeletal condition and recent surgery were excluded. Participants divided into two groups: control group (n=31) and experimental group (n=31). Experimental group received balance exercise like side stepping, tandem walking, retro walking, one-leg stance and external perturbation while standing, leg press, leg curl and leg extension on resisted machine exerciser. The control group has received the fall prevention program lecture and fall prevention material. The outcome measures were Berg Balance Score & Timed Up & Go Test were recorded during pre and post assessments by using paired and unpaired t test.

Result : Compared to baseline on post assessment there was significant improvement were seen in experimental group as compared to control group. Where the p value for BBS was 0.328 & TUG >0.3145 which was not significant. But after 6 months of training the p value for BBS 0.0001 and for TUG 0.0002 which was significant. And it also shows that there was females was more affected as compared to males.

Conclusion : Hence it is concluded that the community based intervention was effective in older adults.

Keywords : Community dwelling older adults, balance, falls etc.





National Research Conference on Arthritis

Index: PG Category

Code	Name of Presenter	Title
COPT/NARC/PG-117	Dr. Amatullah Azizbhai Bhurka	Correlation Of Involvement Of Osteoarthritis Knee (Side) With Body Mass Index And Dominancy Of Lower Limb: An Observationalstudy
COPT/NARC/PG-78	Dr. Vinayak satish sawant	Current Physiotherapy Practice For Knee Osteoarthritis In Postmenopausal Women: Narrative Review.
COPT/NARC/PG-77	Dr. Romita Shah	Recent Physiotherapy Practice For Prevention Of Post Traumatic Knee Osteoarthritis: Narrative Review
COPT/NARC/PG-126	Dr. Grishma Shah	Title: Effect Of Contrast Hydrotherapy Along With Foot Proprioceptive And Strengthening Exercises On Pain And Foot And Ankle Ability Measure (Faam) In Podagra
COPT/NARC/PG-61	Dr. Shivane Kishor Dalvi	Functional Assessment tools used in Ankylosing Spondylitis
COPT/NARC/PG-131	Dr. Dharmik G. Suhagiya	Effect Of Bilateral Osteo Arthritis A Knee On Temporal Parameter Of The Gait Cycle- An Observational Cross-Sectional Study.
COPT/NARC/PG-108	Dr. Joshi Rudrika	Effect of Comprehensive Physiotherapy approach for management of post Chikungunya arthralgia
COPT/NARC/PG-45	Dr Dhruva Bhatt	Prevalence Of Flatfeet Amongst Tibiofemoral Arthritis Patients
COPT/NARC/PG-87	Dr. Ishwari H Navghare	Prevalence of foot posture index in gouty arthritis: Narrative review
COPT/NARC/PG-62	Miss. Sakshi Shah	Current Physiotherapy practice for chronic gouty arthritis
COPT/NARC/PG-59	Dr. Radha Pradeep Bhende	Role of Physiotherapy in Juvenile Rheumatoid Arthritis
COPT/NARC/PG-88	Dr. Akanksha N. Padte	Role Of Physiotherapy In Juvenile Idiopathic Arthritis: Narrative Review
COPT/NARC/PG-84	Dr. Piyusha Pawar	Pattern Of Biarticular Muscle Imbalance In Early Knee Osteoarthritis: Systematic Review
COPT/NARC/PG-75	Dr. Shreeya D. Berde	Correlation Between Lumbar Spondylosis And Knee Osteoarthritis In Geriatric Population
COPT/NARC/PG-70	Dr. Shraddha Prabhu	Comparison between conventional treatment versus conventional treatment plus perturbation training in OA





COPT/NARC/PG-113	Dr. Khyati Satishbhai Mewada	Correlation Of Bmi With Quality Of Life In Osteoarthritis Of The Knee: An Observational Crosssectional Stud
COPT/NARC/PG-82	Dr. Pooja Dilip Nimse	The Immediate effects of single session treatment using Glucosamine sulphate iontophoresis versus Methyl salicylate iontophoresis on pain and knee extension range of motion in patients with unilateral knee osteoarthritis.
COPT/NARC/PG-63	Dr. Prachiti R. Bhore	Effect Of Multi-Component Exercise Programme On Pain Related Gait Adaptations In Bilateral Osteoarthritis Of Knee Joint
COPT/NARC/PG-106	Dr.Princy Shah	Effect of splint on pain, function and grip strength in carpometacarpal osteoarthritis: An evidence-based study
COPT/NARC/PG-90	Dr. Priyanka Gadgil	Validity and Reliability of "Indain Make" Isometric strenth testing device in Knee Osteoarthritis patient: A Reliability Study
COPT/NARC/PG-69	Dr. Richa Deshpande	To compare the effectiveness of McKenzie and Maitland mobilization techniques in knee osteoarthritis.
COPT/NARC/PG-109	Dr. Muskan Shashikant Mahant	Correlation Between Hamstring Tightness And Time Duration Of Disease In Knee Osteoarthritis: An Observational Cross-Sectional Study.
COPT/NARC/PG-68	Dr. Rupali Takkar	Effectiveness Of Proprioceptive Neuromuscular Facilitation Along With Strengthening And Muscle Energy Technique Along With Static Stretching On Pain And Dynamic Stability In Elderly With Knee Osteoarthritis
COPT/NARC/PG-120	Dr. Akanksha Anand	Prophylactic Measures And Effects Of Preventive Exercises On Arthritis
COPT/NARC/PG-141	Dr. Dhruv Sureshbhai Jain	Is there any correlation between Osteoarthritis knee and dominant limb?- A cross sectional study
COPT/NARC/PG-47	Dr. Kajol Rajendra Detha	Effectiveness Of "Vims Knee Traction Unit" For Increase In Knee Joint Space In Patients With Knee Osteoarthritis: An Observational Study
COPT/NARC/PG-105	Dr. Kavya Prajapati	Knowledge about Osteoarthritis Clinical Practice Guidelines in Physiotherapists: A cross-sectional survey
COPT/NARC/PG-122	Dr. Manasi Prakash Chavarkar	Effect Of Physiotherapy Intervention For Pain Manegment And Improving Hip Muscles Strength In Hip Osteoarthritis





COPT/NARC/PG-60	Dr. Rutuja Arulekar	Post-Viral Polyarthritis: Case Report
COPT/NARC/PG-58	Dr. Pradnya Dhake	Role of physiotherapy in psoriatic arthritis
COPT/NARC/PG-107	Dr. Hardik Ashwinbhai Ramani	The Effect Of A Joint Protection Education Programme For People With Rheumatoid Arthritis: An Evidence Based Study.
COPT/NARC/PG-85	Dr. Ghadage Pradnya Pradip	Physiotherapy For Spinal Dysfunction In Rheumatoid Arthritis: Current Evidences And Future Directions
COPT/NARC/PG-92	Dr. Avaghade Rutuja	Effect Of Home-Based Exercise Programme On Physical Functioning In Rheumatoid Arthritis During Covid 19 Pandemic
COPT/NARC/PG-127	Dr. Swati Kajbaje	Effectiveness of resistance training along with joint protection strategies on hand function and quality of life in patients with hand arthritis
COPT/NARC/PG-83	Dr. Chaitali Mali	Role Of Physiotherapy In Reactive Arthritis
COPT/NARC/PG-97	Dr. Akshada Pravin Yerande	Physical functional assessment tools in pediatric rheumatology A narrative review
COPT/NARC/PG-64	Dr. Thundil Jibin Jacob	Long Term Consequences Of Tuberculous Arthritis
COPT/NARC/PG-86	Dr. Apurva G. Mehta	Physical Activity For Post- Viral Arthralgia: Status Of Current Physiotherapy Practice





CORRELATION OF INVOLVEMENT OF OSTEOARTHRITIS KNEE(SIDE) WITH BODY MASS INDEX AND DOMINANCY OF LOWERLIMB: AN OBSERVATIONAL STUDY

Dr. Amatullah Azizbhai Bhurka (PT)¹, Dr. Yagna Unmesh Shukla (PT)²

1 M.P.T, Cardiorespiratory Physiotherapy, Government Spine Institute and Physiotherapy College, Civil Hospital, Asarwa, Ahmedabad.

2 M.P.T, Musculoskeletal Physiotherapy, Ph.D. Principal Government Spine Institute and Physiotherapy College, Civil Hospital, Asarwa, Ahmedabad.

ABSTRACT

Background: Osteoarthritis of knee is a common cause of pain and disability especially in elderly. common Degenerative arthritis with 56.6% affection in rural areas where as 32.6% in urban areas in INDIA. Osteoarthritis of knee is a chronic degenerative disorder of multifactorial etiology. Dominant limb is used in order to manipulate an object or to lead out in movement. Non-dominant limb is supporting limb. There is a very strong association between body mass index, altered limb alignment, and osteoarthritis of the knee—and the protective effects of weight loss—support the classic hypothesis that the effects of obesity on the joint are due to increased biomechanical loading and associated alterations in gait.

Methodology: A sample size of 150 osteoarthritis patients were screened. Out of those 40 unilateral cases and 61 bilateral cases were selected as per inclusion criteria., subjects were asked to perform two tasks that included kicking a ball and stepping, with giving a rest between two tasks. The task was carried on for 3 trials and the best out of the 3 was selected and analysis of the same was done accordingly. And for BMI the calculations were done taking into account the height as well as the weight of the subjects using a stadiometer and weighing scale respectively. The correlation between the osteoarthritis and dominant limb and body mass index was analysed.

Results: From statistical analysis of above study, it was found that there is moderate co-relation of dominant leg and body mass index in both unilateral and bilateral osteoarthritis cases

Conclusion: Occurrence of osteoarthritis increases in both bilateral and unilateral cases in dominant limb with increase in body mass index

Keywords: Osteoarthritis of knee, Dominant Limb, Body mass index





CURRENT PHYSIOTHERAPY PRACTICE FOR KNEE OSTEOARTHRITIS IN POSTMENOPAUSAL WOMEN: NARRATIVE REVIEW

Dr. Vinayak Sawant (PT)¹, Dr. Suraj Kanse (PT)²

¹ PG student, faculty of physiotherapy, Krishna Institute of Medical Sciences Deemed to be University, Karad, Maharashtra, India

² Associate professor and Head of Department of Neurosciences,
Krishna Institute of Medical Sciences Deemed to be University, Karad, Maharashtra, India

ABSTRACT

Background: Osteoarthritis are common disease in postmenopausal women. It is the result of damage to articular cartilage caused by complex interaction of genetic, metabolic, biochemical and mechanical factors with secondary components of inflammation. Physiotherapy practice helps in reduction of pain and inflammation, by using cryotherapy, rest and electrotherapeutic modalities. The progressive muscle strength training for the quadriceps associated to the proprioceptive training is effective in increasing the muscle strength in the quadriceps, improvement of the static and dynamic balance, increasing the speed of the motor responses, therefore improving the performance of daily activities and reducing the frequency of fall in women with postmenopausal women osteoarthritis.

Method: We performed a narrative review on recent physiotherapy practice for postmenopausal women knee osteoarthritis and discuss evidence-based study. For the purpose of the review, an electronic search for relevant articles using PUBMED, MEDLINE, Pedro, GOOGLE SCHOLAR and CINHAI databases up to September 2021 was performed. In addition to the electronic study, retrieved articles were searched manually for relevant studies. Articles were selected based on authors, expertise, self-knowledge, and reflective practice. The inclusion criteria of the review were: A) studies with physiotherapy for patients with knee osteoarthritis in postmenopausal women. B) study with mild knee osteoarthritis.

Result: 10 studies met the inclusion criteria for further analysis. These studies showed beneficial results of physiotherapy interventions in postmenopausal women having knee osteoarthritis. Studies showed physiotherapy interventions reduces pain and inflammation, also prevents further progression. It helps to restore normal movement pattern, muscle strength and gait pattern.

Conclusion: The physiotherapy may be effective if they include quadriceps activation, balance training and prevention of fall, patient centered treatment approach, home exercises and appropriate recreational activities.

Keywords: Menopause. Osteoarthritis, quadriceps activation, Gait.





Recent Physiotherapy Practice For Prevention Of Post Traumatic Knee Osteoarthritis: Narrative Review

Dr. Romita Shah (PT)¹, Dr. Suraj Kanse (PT)²

¹ PG student, faculty of physiotherapy, Krishna Institute of Medical Sciences Deemed to be University, Karad, Maharashtra, India

² Associate professor and Head of Department of Neurosciences,
Krishna Institute of Medical Sciences Deemed to be University, Karad, Maharashtra, India

ABSTRACT

Background: Post traumatic osteoarthritis is a process resulting from sudden mechanical force applied to the articular surface of a joint that causes injury and degenerative changes. 12% of all symptomatic osteoarthritis of the hip, knee, and ankle can be attributed to a post traumatic cause. Physiotherapy practice has benefits in prevention of knee osteoarthritis, reduction of pain and inflammation and further progression of Osteoarthritis by using neuromuscular rehabilitation, muscle strengthening and aerobic training after knee injury. It includes restoration of normal movement patterns that may have been altered after injury, along with neuromuscular exercises and gait retraining to prevent development of osteoarthritis after an injury occurs.

Method: We performed a narrative review on recent physiotherapy practice for prevention of post traumatic knee osteoarthritis and discuss evidence-based study. For the purpose of the review, an electronic search for relevant articles using PUBMED, MEDLINE, Pedro, GOOGLE SCHOLAR and CINHAI databases up to September 2021 was performed. In addition to the electronic study, retrieved articles were searched manually for relevant studies. Articles were selected based on authors, expertise, self-knowledge, and reflective practice. The inclusion criteria of the review were: A) studies of physiotherapy for patients with post traumatic knee injuries. B) long term manifestations of post traumatic knee injuries. C) Preventive strategies for osteoarthritis.

Result: 10 studies met the inclusion criteria for further analysis. These studies showed beneficial results of physiotherapy interventions in prevention of post traumatic knee osteoarthritis and importance of judicious physical activities. Neuromuscular rehabilitation and aerobic training helps to restore normal movement pattern, muscle strength and gait pattern. Studies showed physiotherapy interventions reduces pain and inflammation after injury, also prevents further progression.

Conclusion: All post traumatic knee injuries patients should be encouraged to include neuromuscular rehabilitation as an early intervention to reduce further progression of condition. The physiotherapy may be effective if they include patient centered treatment approach, home exercises and guidelines for joint protection, positioning, prevention of re-injury and appropriate recreational activities.

Keywords: Knee injuries, Degeneration, Neuromuscular rehabilitation, Prevention





Effect Of Contrast Hydrotherapy Along With Foot Proprioceptive And Strengthening Exercises On Pain And Foot And Ankle Ability Measure (Faam) In Podagra

Dr. Grishma Shah (PT)¹, Dr. Chakshu Mehta (PT)²

1 MPT Student, College of Physiotherapy, Vadodara, 2 MPT Student, College of Physiotherapy, Vadodara

ABSTRACT

Background: Gout is a disease that involves built-up of uric acid in the body, which leads to inflammation of joints, causing painful arthritis, called gouty arthritis. Approximately 90% of patients develop arthralgia of metatarso-phalangeal joint(Podagra), which impairs their daily activities of living like standing, walking, stair climbing. In an adaptive response patient have manifested altered foot posture. Therefore, managing pain and modify altered foot posture Seems to be representable treatment approach. So, contrast hydrotherapy works on neuromodulation thus suppressing pain. Proprioceptive and strengthening exercises assist in rectifying altered foot posture, thereby enhancing ADLs.

Method: A total of 10 patients who are currently in non-flare up period and having complain of pain and difficulty in activities of daily living were selected. Physiotherapeutic intervention of contrast hydrotherapy followed by foot proprioceptive and strengthening exercises was given 3 sessions/week for 2 weeks. Outcome measures are numeric pain rating scale (NPRS) and FAAM.

Result: Out of 10 patients, 2 patients couldn't follow up the treatment. Remaining 8 patients showed significant improvement on NPRS and FAAM.

Conclusion: Contrast hydrotherapy and foot proprioceptive and strengthening exercise are effective in reducing pain and improving ADL of patient.

Keywords: Proprioceptive, Gout, Arthritis, Foot postures, Hydrotherapy, Strengthening





Functional Assessment tools used in Ankylosing Spondylitis

Dr. Shivaneekishor Dalvi (PT)¹, Dr. Sandeep Shinde (PT)²

¹ PG student, faculty of physiotherapy, Krishna Institute of Medical Sciences Deemed to be University, Karad, Maharashtra, India

² Associate professor, Department of PT in Musculoskeletal Sciences Department,
Krishna Institute of Medical Sciences Deemed to be University, Karad, Maharashtra, India

ABSTRACT

Background: Ankylosing Spondylitis is a chronic inflammatory arthritis that predominantly affects the axial skeletal causing spinal pain and stiffness, which can result in functional impairment, disability and poor quality of life. Ankylosing spondylitis assessment formulates an outcome measure in order to check the disease process, impairment in individuals and identify the rapid progressive ones and also to measure the effectiveness of therapies and treatment.

Methods: A narrative review was done to study the functional assessment tools in ankylosing spondylitis patients. For the purpose of this review, an electronic search for relevant articles using Google Scholar, PUBMED, MEDLINE, Pedro, Research Gate and CINHAL databases up to September 2021 were used. In addition to this relevant book were also searched manually. Articles were selected based on authors expertise, self- knowledge and reflective practice. The inclusion criteria of review were: A) Functional Assessment B) Sensitivity & specificity C) Reliability D) Validity.

Results: The current study included 21 articles that fulfilled the inclusion criteria and suggested that functional assessment tools are important in ankylosing spondylitis. Few articles suggest that certain tools are effective in assessment of domains like pain and physical function. Whereas few give a good measure of pre and post physical therapy and pharmacological intervention. The studies used for the review consisted of scales or questionnaire which were either qualitative or quantitative type.

Conclusion: The reviewed studies provided evidence that it beneficial for assessing the function. There was lack of data available in which one assessment tool measured all the parameters of ankylosing spondylitis. Also in recent advances, Video-based motion capture system has turned out to be an effective modern functional assessment tool in ankylosing spondylitis.

Keywords: Ankylosing Spondylitis, Assessment, Bath Ankylosing Spondylitis Functional Index (BASFI), Dougados Functional Index (DFI)





Effect Of Bilateral Osteoarthritis Knee On Temporal Parameter Of The Gait Cycle- An Observational Cross-Sectional Study

Dr. Dharmik G. Suhagiya (PT)¹, Dr. Yagna Unmesh Shukla (PT)²

1 M.P.T, 2nd Year, Department of Orthopedics, Government Physiotherapy College and Government Spine Institute, civil hospital, Ahmedabad

2 Ph.D. and Principal, Government Physiotherapy College and Government Spine Institute, civil hospital, Ahmedabad

ABSTRACT

Background: Osteoarthritis [OA] is estimated to be the fourth leading cause of disability strongly associated with aging, and population in the Asian region are aging rapidly. Knee OA is a complex disease influenced by many factors, including the loading environment. Analysing knee biomechanics during walking - the primary cyclic load-bearing activity - is therefore particularly relevant. Gait analysis provides the critical information needed to understand the role of ambulatory biomechanics in OA development, and to design therapeutic interventions. Multidisciplinary research is necessary to relate the biomechanical alterations to the structural and biological components of OA.

Methods: All Subjects were requested to sign a written informed consent statement before the study. They were divided into two groups that is group A has osteoarthritis patients (n = 10) and group B has normal healthy subjects (n = 10) individuals walked at a self-selected speed along a 10 m indoor path. Inclusion criteria were based on National Institute for Health and Care Excellence for knee OA (Bilateral) as indicated. Stride time [millisecond], step time[millisecond], Swing Phases, [in percentage of gait cycle], Stance Phases [in percentage of gait cycle] and Cadence per minute [stride/min] were taken as outcome measurement parameters.

Results: Comparison was made between the gait parameters from Two groups by using t-test for statistical analysis. Result shows statistically significant difference in gait parameters between the patient group and healthy individuals. Patient group have lower Stride time [millisecond], Step time[millisecond], Swing Phases, Stance Phases and Cadence per minute [stride/min] then the control group.

Conclusion: Knee Osteoarthritis shows significant Reduced Gait Parameters Then Healthy Individuals.

Key Words: Gait analysis, Gait parameters, Knee osteoarthritis, instrumented shoes (ShoesFSR)





Effect of Comprehensive Physiotherapy approach for management of post Chikungunya arthralgia

Dr. Joshi Rudrika (PT)

Master of Physiotherapy Student College of Physiotherapy,
Faculty of Medicine, Maharaja Sayajirao University, S.S.G Hospital, Vadodara, Gujarat.

ABSTRACT

Background: Chikungunya fever is an arbovirus disease caused by chikungunya virus. Chronic phase of chikungunya includes symmetrical joint involvement commonly affecting metacarpal, interphalangeal, elbow, wrist, ankle and knee joint. Current literature reports that chikungunya can result in a severe chronic arthralgia and/or arthritis that can last months to years after the initial infection. Aim of this study is to review the existing literature related to effect of physiotherapy for management of chikungunya arthritis.

Method: The search for this study was done using search engines which includes Pubmed, Google scholar, Research gate, SciELO and Cochrane. The studies done after 2015 in English language are taken. Clinical trial, interventional pre and post study and case study/report are used for review.

Result: Based on literature review, the reported physiotherapy treatment included electrotherapeutic modalities, hydrotherapy, manual therapy, aerobic exercise, kinesiotherapy, pilates method and resisted exercise. Significant Improvement was seen in pain, range of motion, edema, physical function and quality of life.

Conclusion: As per the review physiotherapy treatment is effective in improving physical function capacity and quality of life. More clinical trials are needed for strong evidence. Especially in India lack of studies are present on physiotherapy for chikungunya induced arthritis.

Key words: Chikungunya, physiotherapy, chronic arthralgia





Prevalence Of Flatfeet Amongst Tibiofemoral Arthritis Patients

Dr. Dhruva Bhatt (PT)¹, Dr. Amit Patel (PT)²

¹ Masters in Orthopedics, JG College of Physiotherapy, Ahmedabad.

² Masters in orthopedics, PG Guide, Sr. lecturer, JG College of Physiotherapy, Ahmedabad

ABSTRACT

Background: Knee Osteoarthritis is one of the most common musculoskeletal conditions in elderly population. Knee Osteoarthritis most often presents in the medial compartment of the knee joint, with prevalence 5-10 times higher than disease in the lateral compartment. Foot posture has been considered to contribute to the development of lower extremity musculoskeletal conditions as it may alter the mechanical alignment and dynamic function of the lower extremity. So the need of the study is to find prevalence of flatfeet amongst tibiofemoral arthritis patients.

Methodology: The study design is cross sectional study. Patients who were diagnosed with medial tibiofemoral arthritis were included in the study. Kellegren and Lawrence system for classification of osteoarthritis ($r=0.72$ to 1.0) was used. Navicular drop test ($ICC=0.21$) was performed to check flatfeet. In which 25 participants have participated in the study. Data was analysis was done using excel.

Results: Data from 25 participants were included for final analysis. The majority of study participants were female ($n = 72\%$, 18). The mean age of participants was 58.3. Prevalence of flatfeet amongst tibiofemoral arthritis patients was found 56%.

Conclusion: This study shows that there is prevalence of flatfeet amongst tibiofemoral arthritis patients. It is therefore recommended that the assessment of patients with tibiofemoral arthritis in clinical practice should include examination and management of flatfeet.

Key words: Tibiofemoral arthritis, Flatfeet, Medial compartment of knee





Prevalence of foot posture index in gouty arthritis: Narrative review

Dr. Ishwari H Navghare (PT)¹, Dr. Mandar Malawade (PT)²

¹ MPT, Paediatric Neurosciences, Krishna Institute of Medical Sciences Deemed to be University, Karad, Maharashtra, India

² Professor & Hod, Paediatric Neurosciences, Krishna Institute of Medical Sciences Deemed to be University, Karad, Maharashtra, India

ABSTRACT

Background: Gout is caused by the deposition of monosodium urate monohydrate (MSUM) crystals at synovial joints. Men have more prevalence of gout as compare to female with increasing age. Due to metabolism of purines uric acid is mainly form and some is ingested with food. Patient present with severe pain in single distal joint, commonly the first metatarsophalangeal joint. On examination marked synovitis with swelling, skin is red shiny and patient have extreme tenderness. Symptoms are usually self-limiting for 5-14 days. On investigation due to high neutrophil count (>90%) synovial fluid appears turbid in case of acute gout.

Method: We performed a narrative review on prevalence of foot posture index in gouty arthritis and discuss evidence-based studies. For the purpose of the review, an electronic search for the relevant articles by using Google Scholar, PUBMED, Pedro, Research Gate database up to September 2021 was performed. With addition to electronic search, articles were searched manually for the studies. The inclusion criteria of the review were: 1) Patients with severe pain 2) Patients with gouty arthritis. Foot posture index (ICC=0.88) were used to assess the posture of the foot whether the foot is in supinated, pronated or in neutral position.

Result: The current review included 10 studies that fulfilled the inclusion criteria suggesting that, patients with gouty arthritis had pain and disability in foot, mainly with pronated foot which is due to pain and discomfort patient appear with the pronated foot. People with gout resulted with reduced range of subtalar joint and 1st MTPJ motion, and those people are likely to have foot posture deformity which suggest that there is more pronation of foot while standing as evidenced by increased pressure in the midfoot in people with gout. Which conclude that foot posture index scores indicated a pronated foot type.

Conclusion: The reviewed studies provided evidence that subjects with gouty arthritis have the foot posture impairment, i.e. patient usually appears with pronated foot and have reduced range of subtalar joint and 1st MTPJ motion. These results highlights the importance of including the assessment of foot posture index in gouty arthritis patients.

Keywords: Gouty arthritis, pronated foot, subtalar joint, foot posture index.





Current Physiotherapy practice for chronic gouty arthritis

Dr. Sakshi Shah (PT)¹, Dr. Sandeep Shinde (PT)²

¹ PG Student, Faculty Of Physiotherapy, Krishna Institute of Medical Sciences Deemed to be University, Karad, Maharashtra, India

² Associate Professor, Department of PT In Musculoskeletal Sciences Department,
Krishna Institute of Medical Sciences Deemed to be University, Karad, Maharashtra, India

ABSTRACT

Background: Gout is a metabolic disorder characterized by hyperuricemia and abnormal depositions of urate around tissues and in and around joints i.e. tophi. It is form of crystal induced arthritis. Scope of physiotherapy includes reduction in pain and inflammation of joints by using cryotherapy, rest and some electrotherapeutic modalities. Intervention can also control impaired joint mobility, improve muscle performance, increase motor function and can maintain range of motion associated with localised inflammation. Physiotherapy program can also include splinting, other assistive devices to protect the affected joints specific exercise interventions. By specifically treating comorbidities, the disease specific outcomes and quality of life can be improved.

Methods: We performed a systematic narrative review for physiotherapy practices for chronic gouty arthritis and discuss evidence-based studies. Articles were selected based on authors' expertise, self-knowledge and reflective practice. For the purpose of the review, an electronic search for relevant articles using PUBMED, PEDRO, MEDLINE and CINHALL and database up to September 2021 was performed. In addition to electronic search, retrieved articles were searched manually for relevant studies. Inclusion criteria of the review were: A) Studies with Physiotherapy for patients with gouty arthritis. B) Physical activity for gouty arthritis C) Co-morbidities associated with GA and Long term Manifestations.

Results : The searches identified ten relevant studies; these studies showed beneficial results of physiotherapy interventions in chronic gouty arthritis and showed long term effects of gout and importance of judicious physical activities. Studies showed physiotherapy interventions reduce inflammation and also help in reduction of pain. Interventions also helps to regain and maintain muscle strength and in prevention of further deformity.

Keywords : Gouty Arthritis, Physiotherapy, Physical Activity





Role of Physiotherapy in Juvenile Rheumatoid Arthritis

Dr. Radha Pradeep Bhende (PT)¹, Dr. Sandeep Shinde (PT)²

¹ PG Student, Faculty Of Physiotherapy, Krishna Institute of Medical Sciences Deemed to be University, Karad, Maharashtra, India

² Associate Professor, Department of PT In Musculoskeletal Sciences Department,
Krishna Institute of Medical Sciences Deemed to be University, Karad, Maharashtra, India

ABSTRACT

Background: Juvenile Rheumatoid Arthritis(JRA) is defined as a heterogeneous group of chronic inflammatory arthritis that begins at childhood usually below age of 16 years. The older the child at the onset of the disease, the severity of the joints affected is more and slighter the chance that the disease would become inactive. Typical clinical manifestations in children with JRA are frequent cervical spine ankylosis, also typical wrist and hand deformities. Lifelong morbidities include flexor contractures and growth retardation. Child can also have history of frequent falls due to decreased fine motor skills and joint movement.

Methods: We performed a narrative review on the role of physiotherapy in Juvenile Rheumatoid Arthritis and discuss evidence-based studies. For the purpose of the review, an electronic search for relevant articles using PUBMED, MEDLINE, Pedro, Research Gate, Google Scholar and CINHALL databases up to 2021 was performed. In addition to the electronic search, retrieved articles were searched manually for relevant studies. Articles were selected based on authors expertise, self-knowledge and reflective practice. The inclusion criteria of review were: A) Studies with Juvenile Rheumatoid Arthritis B) studies that included children between 4-16 years of age C) Studies which included physiotherapy as a choice of treatment. Results: The current study included 10 articles that fulfilled the inclusion criteria suggesting that physiotherapy does have a major role in treating the clinical manifestations in individuals with Juvenile Rheumatoid Arthritis. Some studies suggested that JRA can be managed by follow-up and appropriate application of treatment modalities enabling the child to reach the adulthood without development of disabilities. Aquatic therapy has also found to be effective in treatment of JRA. Similarly, massage therapy has also been proven effective in relieving the pain and reducing the stiffness in such children.

Conclusion: The above reviewed studies provided evidence that physiotherapy as a mode of treatment is effective in Juvenile Rheumatoid Arthritis. Also, physiotherapy interventions are beneficial if they include center-based treatment, home exercises and guidelines for joint protection; positioning; and appropriate recreational activities

Keywords : Juvenile Rheumatoid Arthritis, Physiotherapy, Joint Protection





Role Of Physiotherapy In Juvenile Idiopathic Arthritis: Narrative Review

Dr. Akanksha N. Padte (PT)¹, Dr. Suraj Kanase (PT)²

¹ PG Student, Faculty of Physiotherapy, Krishna Institute of Medical Sciences Deemed to be University, Karad, Maharashtra, India

² Associate Professor And Head of Department Of Neurosciences,
Krishna Institute of Medical Sciences Deemed to be University, Karad, Maharashtra, India

ABSTRACT

Background: Juvenile idiopathic arthritis is the most commonly found rheumatic disease in children. Children with Juvenile idiopathic arthritis are believed to have lower aerobic capacity, functional ability. Symptoms associated with juvenile idiopathic arthritis include pain, joint swelling, stiffness, muscle weakness, atrophy, and resultant movement abnormality. Exercise helps in reducing pain, reducing deformities it also helps in normalizing physical function, quality of life.

Method: We performed a narrative review on the role of physiotherapy in Juvenile idiopathic arthritis and discuss evidence based-studies. For purpose of the review, an electronic search for relevant articles using PUBMED, Google scholar, MEDLINE, ResearchGate databases upto September 2021. In addition to the electronic search, retrieved articles were searched manually for relevant studies. Articles were selected based on authors' expertise, self-knowledge, and reflective practice. The inclusion criteria of the review were: A) studies of physiotherapy for patients with juvenile idiopathic arthritis. B) Age group 4-21 years of age C) Both the gender.

Result: The current review included 10 studies that fulfilled the inclusion criteria suggesting that, patients with juvenile idiopathic arthritis. These studies showed beneficial results of physiotherapy interventions in juvenile idiopathic arthritis and importance of physical activities. Studies showed decreased pain improved functional activities, aerobic capacity and also prevents further prevention.

Conclusion: The reviewed studies provided evidence that subjects with patients juvenile idiopathic arthritis should be encouraged physiotherapy rehabilitation as an early intervention to reduce pain, improved functional activities, aerobic capacity and also prevents further prevention.

Keywords: juvenile idiopathic arthritis, physiotherapy rehabilitation.





Pattern Of Biarticular Muscle Imbalance In Early Knee Osteoarthritis: Systematic Review

Dr. Piyusha Pawar (PT)¹, Dr. Sandeep Shinde (PT)²

1 MPT, Krishna College of physiotherapy, Krishna Institute of Medical Sciences, Karad.

2 Associate Professor, Krishna College of physiotherapy, Krishna Institute of Medical Sciences, Karad.

ABSTRACT

Background: Early OA of the knee is more complicated as the signs/symptoms may still be limited and sporadic, only manifested under certain conditions such as after long-term loading. Muscle activation patterns influence the overall magnitude of the knee joint load and also the rate of loading. Muscle dysfunction associated with knee osteoarthritis are the primary underlying cause of functional limitations. These factors are dynamic and subjected to change as joint angles are altered.

Method: We performed a systematic narrative review on pattern of biarticular muscles imbalance in early knee osteoarthritis and discuss evidence-based studies. For the purpose of the review, an electronic search for relevant articles using PUBMED, MEDLINE, Pedro, Research Gate, Google Scholar and CINHALL databases up to September 2021 was done. In addition to the electronic search, some retrieved articles were searched manually for relevant studies. Articles were selected on basis of authors' expertise, self-knowledge, and reflective practice. The inclusion criteria of the review was: A) Studies with early OA knee criteria: -1) Pain in the knee.2) Standard radiographs reading Kellgren–Lawrence grade 0 or I or II (osteophytes only). 3) At least one following structural criterion • Arthroscopic detection of cartilage lesions. • MRI findings showing articular cartilage degeneration. B) Studies which used electromyography, isokinetic dynamometer, Gait lab, force plates and manual muscle testing was included.

Result: The current review included 10 studies that fulfilled the inclusion criteria suggesting that, patients with early OA had the activation of quadriceps and hamstrings toward the lateral components of these muscle groups in early stance phase. They also showed increased activation of lateral hamstrings and gastrocnemius before foot contact and increased simultaneous contraction of the lateral quadriceps and gastrocnemius as well as medial quadriceps and hamstrings during weight acceptance. Tight iliotibial band contribute to early degeneration, as it pulls the patella laterally during knee flexion movement and also externally rotates the tibia, causing the corresponding changes in tibiofemoral joint contact pattern and excessive lateral tracking of patella.

Conclusion: The reviewed studies provided evidence that subjects with early knee OA have significant muscular imbalance and these muscle impairments increase rate of loading at the knee and affect physical function. It has been identified as a risk factor for the initiation and progression of joint degeneration. There is lack of evidence on spine involvement in early OA knee due to biarticular muscle imbalance. These results highlight the importance of including diagnostic and therapeutic importance of biarticular muscles in early OA.

Keywords: muscle dysfunction, early degeneration, electromyography, isokinetic dynamometer, Gait lab.





Correlation Between Lumbar Spondylosis and Knee Osteoarthritis in Geriatric Population

Dr. Shreeya D. Berde (PT)¹, Dr. Sandeep B. Shinde (PT)²

1 MPT, Krishna College of physiotherapy, Krishna Institute of Medical Sciences, Karad.

2 Associate Professor, Krishna College of physiotherapy, Krishna Institute of Medical Sciences, Karad.

ABSTRACT

Background: The aim of this study was to find out the correlation between lumbar spondylosis and knee osteoarthritis in geriatric population with the help of radiographic measurements and clinical information using a baseline data of multicentric longitudinal study.

Methods: A total of 107 elderly subjects were recruited from Krishna Hospital, SDH & PHCs. Data for the present investigation were collected by using an interviewer-administered questionnaire, containing questions on area having pain, past medical history and drug history. Along with that the results of functional testing and X-ray imaging of the lumbar spine and knee osteoarthritis were collected. Analysis was carried out to find out any association between results of X-ray imaging of the lumbar spine and knee osteoarthritis other collected data and sorted regarding Akaike Information Criterion (AIC). Inclusion criteria: 1. Age ≥ 65 years, 2. Complaints related to the lower limbs or spine without disability in walking or leaving the home. 3. Slight disabilities in walking and leaving the home. 4. Slight disability in walking due to locomotive organ disorders. 5. Complaints present regarding upper extremities without any problem in walking or leaving the home. 6. Able to answer the Geriatric Locomotive Function Scale-25 (GLFS-25) questionnaire. Exclusion criteria: 1. Unable to stand up from a chair or bed 2. Unable to walk or move because of neurological disease requiring admission treatment. 3. Severe hepatic, pulmonary, coronary or renal disease 4. Mental illness, 5. Past history of fracture of a lower extremity, stroke, myocardial infarction within the preceding 6 months 6. Current treatment for acute trauma. Results: T12/L1% disc height showed a minimum AIC value with buttock pain and history of vertebral fracture. There was minimal AIC value with knee pain in % disc height in L1/L2, L2/L3, and L3/L4.

Conclusions: Association was found to be between the T12/L1% disc height with both buttock pain, previous vertebral fractures, and the L1/L2, L2/L3, and L3/L4% disc height showed a correlation with knee pain. Mainly the L2/L3% disc height and knee pain had a strong association and it was advised that these findings may provide additional basis to the concept that lumbar spinal lesion associates with knee pain further turning it into osteoarthritis of knee clinically. Keywords: Knee pain, Lumbar spondylosis, Disc height, Knee-spine syndrome, Disc degeneration, Lumbar spine, knee osteoarthritis, Elderly people.

Keywords: Knee pain, Lumbar spondylosis, Disc height, Knee-spine syndrome, Disc degeneration, Lumbar spine, knee osteoarthritis, Elderly people





Comparison between conventional treatment versus conventional treatment plus perturbation training in OA knee patients and assessment with WOMAC scale

Dr. Shraddha Prabhu (PT)¹, Dr. Sushil Arora (PT)²

¹ PG student, CMF's college of Physiotherapy.

² Associate Professor, CMF's college of Physiotherapy.

ABSTRACT

Background: Osteoarthritis is the disease that affects the joints in the body and is characterized by degeneration of articular cartilage. Knee is the commonly affected joint of all. Impaired proprioception has been reported in patients suffering from knee osteoarthritis. Sensory receptors are present in the capsular and pericapsular tissues of synovial joints. These receptors project information to the CNS and mediate information on joint motion and position. In rheumatic conditions like osteoarthritis, degenerative changes within the joint can affect the function of these receptors and thereby alter sensory input. Due to this, the conscious appreciation of limb position and function might be compromised.

Method: This was an experimental study which included a total of 30 diagnosed cases of OA knee that were divided into two groups. Age group was between 40-60 years of age. Group A patients received conventional treatment while Group B patients received conventional treatment along with perturbation training for 6 weeks, 2 days/week. WOMAC index was used as the outcome measure and statistical analysis was done on the pre and post data.

Result: There was a significant difference in the WOMAC index of Group B patients. Total mean score reduced from 54 to 27.86 in the Group B whereas in Group A it reduced from 47.73 to 35.13. Group A patients did not show any significant changes in the WOMAC scores.

Conclusion: We conclude that when perturbation training is added to conventional treatment there is a significant improvement seen in the patient's functional activities. However, perturbation training does not seem to be that effective on the pain factor of OA knee patients. **Keywords:** WOMAC scale, osteoarthritis, knee

Keywords: WOMAC scale, osteoarthritis, knee





Correlation Of Bmi With Quality Of Life In Osteoarthritis Of The Knee: An Observational Cross-Sectional Study

Dr. Khyati Satishbhai Mewada (PT)¹, Dr. Yagna Unmesh Shukla (PT)²

1 PG (Orthopedics), Government Physiotherapy College and Government Spine Institute, civil hospital, Ahmedabad.

2 M.P.T.(Musculoskeletal), Ph.D., Principal, Government Physiotherapy College and Government Spine Institute, civil hospital, Ahmedabad.

ABSTRACT

Background: Osteoarthritis (OA) is the most common chronic condition of the joints, which can affect any joint, there are many factors responsible for OA which includes age, female gender, obesity, anatomical factors, muscle weakness, and joint injury. As the disease progresses, the joint cartilage wears away and bone rubs against bone leading to joint damage and pain which may lead to difficulty in the functions of everyday life. As increased weight is the potential risk factor for development of osteoarthritis of knee joint, hence, this study aims to find correlation between BMI and quality of life.

Method: Subjects were screened according to the eligibility criteria, nineteen subjects, aged between 45 to 65 years were included in the study, pain and quality of life were assessed using the NPRS and mWOMAC Gujarati version respectively. Data was collected and all the subjects were divided into normal, overweight and obese groups according to their classification of BMI, correlation was analyzed of BMI with NPRS and BMI with mWOMAC Gujarati version by spearman's correlation test using MS excel version 2019.

Result: According to the analysis done, normal BMI group showed weak positive correlation with NPRS and mWOMAC Gujarati version while overweight group showed weak positive correlation with NPRS and weak negative correlation with mWOMAC Gujarati version, obesity group showed strong positive correlation with NPRS and weak positive correlation with mWOMAC Gujarati version, which shows that the quality of life is affected in participants in the obese group as compared to the normal group.

Conclusion: There is promising relationship between BMI and Quality of Life. However, further research with larger sample size is recommended. **KEYWORDS:** BMI, Quality of Life, Osteoarthritis knee

Keywords: BMI, Quality of Life, Osteoarthritis knee





The Immediate effects of single session treatment using Glucosamine sulphate iontophoresis versus Methyl salicylate iontophoresis on pain and knee extension range of motion in patients with unilateral knee osteoarthritis.

Dr. Pooja Dilip Nimse (PT)

MPTH (MSK), MVP college of Physiotherapy, Adgaon, Nashik

ABSTRACT

Background: Osteoarthritis (OA) is the most leading degenerative joint disease-causing disability. Study was done to find out a better complimentary therapy to exercise in physiotherapy clinical practice for managing patients with unilateral knee osteoarthritis.

Methods: 50 patients of age group 50-70 years, had knee osteoarthritis were included in the study with each group having 25 patients respectively. Group A had Glucosamine sulphate iontophoresis treatment for 15 min and Group B had Methyl salicylate iontophoresis treatment for 15 min baseline intervention for each group was Self-Hamstring stretching 3 sets were done each stretch of 30 sec hold and in between each set 5 sec of rest period.

Results: As the p value for the comparison between Group A and Group B for pain is 0.2608, it is not statistically significant. As the p value for the comparison between Group A and Group B for Active knee extension ROM is 0.7134, it is not statistically significant.

Conclusion: This study concludes that Glucosamine sulphate was as effective as methyl salicylate in reducing pain experienced by knee osteoarthritis patients. Also, both the drugs are equally effective in improving Active knee extension ROM in a single treatment session.

Keywords: knee OA, ROM, NPRS, The American college of Rheumatology (ACR) Clinical classification criteria, Iontophoresis.





Effect Of Multi-Component Exercise Programme On Pain Related Gait Adaptations In Bilateral Osteoarthritis Of Knee Joint

Dr. Prachiti R. Bhore (PT)¹, Dr. Sandeep B. Shinde (PT)²

¹ Piyusha Pawar, 1st MPT, Krishna College of physiotherapy, Krishna Institute of Medical Sciences, Karad.

² Sandeep Shinde, Associate Professor, Krishna College of physiotherapy, Krishna Institute of Medical Sciences, Karad.

ABSTRACT

Background: Osteoarthritis (OA) Knee is an inflammatory condition. Its most common features are joint pain, stiffness, osteophyte formation, sclerosis, reduced joint space, swelling, decreased range of motion and gait variations. Despite significant interest and effort to improve pain management for OA and to develop novel targets, there has been limited success, with management of pain; it mostly focuses analgesic safety and short-term efficacy (2–16 wk). Not many studies have mentioned the long-term efficacy (1–8 yr) or potential adverse effects of chronic use on joint health after the reduction of pain or about any adaptive gait patterns associated with OA knee to accommodate with the pain.

Methods: 60 participants were selected based on inclusion and exclusion criteria. Later they were equally divided into 2 groups. Written consent was taken and aim of the study was explained. All participants were given treatment as per their respective group. On completion of the treatment duration post-test values will be recorded and both values will be compared to check for any significance in the results.

Results: Group A (Experimental) had reduced pain, improved strength, range of motion and gait as compared to Group B (Controlled) at the end of week 10.

Conclusion: Effect of multi-component exercise program on pain related gait adaptations among individuals with bilateral osteoarthritis of the knee joint was found to be significant.

Keywords: Weight-bearing joint, kinematic alterations, proprioception, arthritis, stance, cadence





Effect of splint on pain, function and grip strength in carpometacarpal osteoarthritis: An evidence-based study

Dr. Princy Shah (PT)¹, Dr. Jayshree M. Sutaria (PT)²

1 MPT (Neuroscience) Student, GPC, Ahmedabad.

2 MPT(Orthopedics) Lecturer, GPC, Ahmedabad

ABSTRACT

Background: carpometacarpal osteoarthritis (CMC OA) is a highly prevalent chronic condition that causes pain, limits hand function, and interferes with health-related quality of life (HR-QoL). The stability of the thumb CMC joint is essential to reduce pain and difficulty in daily living activities. There are limited evidence for the effectiveness of splinting in thumb carpometacarpal osteoarthritis. Treatment of thumb CMC OA consists of conservative therapeutic interventions and surgical interventions. Conservative therapy includes joint protection principles, splinting, pain control, exercise, non-steroidal anti-inflammatory drugs, corticosteroid injections, and physical therapy. Splinting is the mainstay of conservative therapy.

Method : The study was conducted according to Preferred Reporting Items for Systemic Reviews and Meta-Analysis guidelines. The evidences selected since year 2011-2021 from PubMed, Google Scholar, Physiotherapy Evidence Data based (PEDro), Science Direct and Wiley online library. Keywords used were splinting, Carpometacarpal, osteoarthritis, conservative treatment. Analysis was done using 2 scales: PEDro scale and Level of Evidence Based on Sackett scale. Total 500 articles were found out of which 20 were screened and 11 included in the study and other articles excluded as per the eligibility criteria.

Result: The majority of the studies included in this review demonstrated medium to large effect on pain, low to medium effects on grip strength and improvement of functional performance with the use of splint.

Conclusion: As per this review there is relatively lack of high quality RCTs available. Major challenge is most of the studies didn't assess the effects of splinting at night, during activities of daily living or both. Further quality research is needed in this area.

Keywords: splinting, Carpometacarpal osteoarthritis, conservative treatment, CMC OA





Validity and Reliability of "Indian Make" Isometric strength testing device in Knee Osteoarthritis patient: A Reliability Study

Dr. Priyanka Gadgil (PT)¹, Dr. Deepak Anap (PT)²

¹ Post Graduate Student of Department Musculoskeletal Physiotherapy, DVVPF's College of Physiotherapy, Ahmednagar, Maharashtra, India

² Professional and HOD of Department Musculoskeletal Physiotherapy, DVVPF's College of Ahmednagar, Maharashtra, India

ABSTRACT

Background: Muscular strength is one of the components of physical fitness. Muscular strength is defined as total amount of force a muscle can produce and is usually measured by the maximum amount of force a muscle can produce in a single attempt. Measurement of muscle strength has its importance in clinical practice and rehabilitation of patients with knee osteoarthritis. It is an important clinical factor when planning a treatment protocol, to measure the therapy's effect and it can be considerable factor while discharging a patient with knee osteoarthritis. Currently available testing devices and alternative methods are Isokinetic Dynamometer (IKD), a gold standard of measuring isometric muscle strength, Hand Held Dynamometry, Q force mobile instrument, Performance Recorder 1, Electronic Push Pull Device. Each available device is noted to have some limitations therefore, a research evaluating the efficacy of alternative tests for monitoring hamstring and quadriceps strength is essential which will be cost effective, well equipped, eliminating all the limitations of available devices.

Materials and Methodology: In this reliability study 76 participants were included comprised of 69 females and 7 males, were assessed for isometric strength testing for Quadriceps and Hamstrings muscle group by using "Indian Make" ISTD, a newly designed assessment tool. Two raters were included in the study that assessed the intra-rater reliability in which the same rater conducted the same test for 3 times whereas the inter-rater reliability was assessed by conducting the same test two raters. Concurrent validity was analysed using Pearson correlation[®] by comparing the variables of two devices ISTD and HHD respectively.

Result: Excellent intrarater and interrater reliability was demonstrated for "Indian Make" ISTD testing for both Quadriceps and Hamstrings muscle group. Intraobserver reliability for Quadriceps ICC was 0.948-0.982. Inter-observer reliability for Quadriceps ICC was 0.944-0.971. Intra-observer reliability for Hamstrings ICC was 0.921-0.922. Inter-observer reliability for Hamstrings ICC was 0.964-0.966. Positive Strong Correlation was found between ISTD and HHD for both Quadriceps and Hamstrings muscle groups with $r=0.93$ for Quadriceps and $r=0.88$ for Hamstrings respectively.

Conclusion: "Indian Make" ISTD is a reliable and valid tool for the measurement of isometric testing of Quadriceps and Hamstrings muscle group.

Keywords: Isometric strength, Isokinetic Dynamometer, Hand Held Dynamometer, Reliability, Quadriceps, Knee Osteoarthritis





To compare the effectiveness of McKenzie and Maitland mobilization techniques in knee osteoarthritis.

Dr. Richa Deshpande (PT)¹, Dr. Himanshu Pathak (PT)²

¹ PG student, CMF's college of Physiotherapy

² Professor, CMF's college of Physiotherapy

ABSTRACT

Background: Osteoarthritis is a progressive degenerative joint disorder caused by gradual loss of cartilage, when degenerated it becomes thinner and may even disappear altogether leading to joint pain and difficulty in movement. Mobilization and manipulation are passive, skilled manual therapy techniques applied to joints and related soft tissues at varying speeds and amplitudes using physiological and accessory motions for therapeutic purposes. Maitland techniques aim to restore motions of spin glide and roll between joint surfaces and are graded according to their amplitudes grade 1 and 2 mobilizations are performed before joint resistance primarily to decrease pain, while grade 3 and 4 mobilizations are performed into joint resistance to increase joint range of motion, whereas McKenzie corresponds to "directional preference" when a repeated movement or posture in one direction, usually to end range, makes a rapid change in function, symptom, and/or range. Directional preferences in the knee can be either of flexion or extension.

Methods: Total 40 male and female patients between 40-65 years of age having VAS more than 40 mm and radiographically more than grade 2 on Kellgren and Lawrence scale were included in the study. Subjects were randomly divided into two groups by coin method where Group A: McKenzie directional preference exercises + conventional therapy and Group B: Maitland mobilization + conventional therapy. Data was analyzed using Graph Pad Instat 3 and Microsoft Excel. Paired T-test was applied for visual analogue scale and WOMAC within the group for pain and functional ability whereas unpaired T-test was applied between the groups and results were obtained.

Results: Result showed pre and post difference on pain using VAS of McKenzie (group A) with $p < 0.001$ which are considered extremely significant.

Conclusion: The study concluded that desired effects were observed in both groups individually but, Maitland Mobilization was more effective in reducing pain and improving functional ability than McKenzie Directional preference Exercises.

Keywords: knee osteoarthritis, McKenzie, Maitland mobilization, WOMAC, VAS





Correlation Between Hamstring Tightness And Time Duration Of Disease In Knee Osteoarthritis: An Observational Cross-sectional Study.

Dr. Muskan Shashikant Mahant (PT)¹, Dr. Yagna Unmesh Shukla (PT)²

1 M.P.T (Orthopaedics), Government Spine Institute and Physiotherapy College, Civil Hospital, Asarwa, Ahmedabad.

2 M.P.T (Musculoskeletal), Ph.D. Principal Government Spine Institute and Physiotherapy College, Civil Hospital, Asarwa, Ahmedabad.

ABSTRACT

Background: Osteoarthritis (OA) is gradually developing articular diseases that originate in the cartilage and affects the underlying bone, soft tissues as well as synovial fluid. OA usually occurs late in life and mainly it affects the hand and large weight-bearing joints such as the knee and hip. The knee joint is largely affected due to its weight-bearing nature. In many studies, this functional loss is related to muscular weakness caused by OA in particular the quadriceps and hamstring muscles. Flexibility is the ability of a muscle to lengthen and allow one joint [or more than one joint in a series] to move through a range of motion. The hamstring muscle group have tendency to shorten and the tightening results in increased patello-femoral compressive force, which may eventually lead to patello-femoral syndrome often associated with osteoarthritis.

Method: Seventeen patients with knee osteoarthritis matched with the inclusion criteria were included in the study. Sit and Reach test was used to evaluate the hamstring tightness. Goniometer was used to evaluate knee active range of motion Spearman's correlation was used to determine the relationship between hamstring tightness and duration of disease in knee osteoarthritis.

Result: The present study found significant inverse correlation ($r = -0.07$) between hamstring tightness and duration of disease such that the hamstring flexibility decreases with increase in the duration of knee osteoarthritis. However, the correlation between duration of disease and knee active range of motion was negligible ($r = 0.25$).

Conclusion: The results states that hamstring tightness and duration of the disease in knee osteoarthritis are correlated. Further research is indicated with a larger sample size.

Keywords: Knee osteoarthritis, hamstring tightness, osteoarthritis





Effectiveness Of Proprioceptive Neuromuscular Facilitation Along With Strengthening And Muscle Energy Technique Along With Static Stretching On Pain And Dynamic Stability In Elderly With Knee Osteoarthritis

Dr. Rupali Thakkar (PT)

MPT, Department of Physiotherapy, Ahmedabad Physiotherapy College

ABSTRACT

Background: OA knee is common condition that causes pain and limits function in elder population. Increased joint pain and decreased joint range of motion are the most common complaints associated with OA Knee. More pain leads to decreased walking speed⁵, reduced dynamic balance and postural control during gait. Physical therapy treatment such as PNF, MET, Strengthening and stretching exercise may decrease the pain and increase dynamic stability in elderly with knee OA. Aim of the study is To compare the effective of Proprioceptive Neuromuscular Facilitation along with Strengthening and Muscle Energy Technique along with static stretching on pain and dynamic stability in elderly with knee osteoarthritis.

Methodology: Thirty subjects who were diagnosed with OA knee were taken in this study. They were divided into 2 groups. Group A (n=10) was treated with PNF along with strengthening of lower extremity. Group B (n=10) was treated with MET along with static stretching of lower extremity. Numeric Pain Rating Scale , Western Ontario and McMaster Universities Arthritis Index (WOMAC) and Berg Balance Scale was taken before and after treatment session. Study duration was 5 days a week for 4 weeks.

Result: Result was statistically inspected using t-test by SPSS version 20. There was significant decrease in pain, improve dynamic stability in elderly people with knee osteoarthritis. As comparing both techniques, group examination showed that MET along with static stretching (group B) is better than PNF along with strengthening (group A).

Conclusion: This study concluded that MET along with static stretching is more effective in decreasing pain and improving dynamic stability than PNF along with strengthening in elderly with knee osteoarthritis.

Key Words: Osteoarthritis, Proprioceptive Neuromuscular Facilitation, Muscle Energy Technique





PROPHYLACTIC MEASURES AND EFFECTS OF PREVENTIVE EXERCISES ON ARTHRITIS

Dr. Akanksha Anand (PT)¹, Dr. Suraj Kanse (PT)²

1 PG Student, Faculty of Physiotherapy, Krishna Institute of Medical Sciences Deemed to be University, Karad, Maharashtra, India

2 Associate Professor And Head of Department of Neurosciences,
Krishna Institute of Medical Sciences Deemed to be University, Karad, Maharashtra, India

ABSTRACT

Background : Arthritis is the swelling and tenderness of one or more joints. The main symptoms of arthritis are joint pain and stiffness, which typically worsen with age. The most common types of arthritis are osteoarthritis and rheumatoid arthritis. Osteoarthritis is commonly caused due to wear and tear of knee joint over many years, or it can be hastened by a joint injury or infection. the body's immune system attacks the lining of the joint capsule, a tough membrane that encloses all the joint parts. This lining (synovial membrane) becomes inflamed and swollen. Risk factors for any type of arthritis is Family history, Age, sex, Previous joint injury, Obesity. These risk factors can be ruled out using various screening tools and prophylactic measure can be intervened to prevent or delay arthritis.

Method : We performed a literature review on recent evidences supporting prophylactic measures and preventive exercises for arthritis. For the purpose of the review, an electronic search for relevant articles using Cochrane library, pubmed, and physiopedia. databases up to September 2021 was performed. Articles were selected based on authors, expertise, self- knowledge, and reflective practice. The inclusion criteria of the review were: A) subjects not diagnosed with arthritis but who have relevant family history. B) subjects with daily heavy manual work . C) subjects with joint injuries.

Result: 8 studies met the inclusion criteria for further analysis. These studies showed beneficial results with various outcome measures and different prophylactic programs.

Conclusion: All subjects with strong family history of arthritis(rheumatoid) and post joint injury patients should be encouraged to undergo screening for arthritis and take precautionary care. This study gives evidence and effect of prophylactic protocol for arthritis which can be adopted by normal individual in their daily routine.

Keywords: arthritis, prophylactic, preventive.





Is there any correlation between Osteoarthritis knee and dominant limb?- A cross sectional study

Dr. Dhruv Sureshbhai Jain (PT)¹, Dr. Yagna Unmesh Shukla (PT)²

1 M.P.T(Orthopedics), M.P.T(Musculoskeletal), Government Spine Institute and Physiotherapy College, Civil Hospital, Asarwa, Ahmedabad.

2 M.P.T(Musculoskeletal), Ph.D, Principal Government Spine Institute and Physiotherapy College, Civil Hospital, Asarwa, Ahmedabad.

ABSTRACT

Background: Osteoarthritis is second most common Degenerative arthritis with 56.6% affection in rural areas where as 32.6% in urban areas in INDIA. Dominant Limb means it is used more. Primary Predisposing factor of Degenerative arthritis is Wear and Tear which might be correlate with dominance of limb.

Methodology: Study Design: Cross-sectional study Studycentre: Government Spine Institute And Physiotherapy College, Civil Hospital, Ahmedabad. Sample Size: 61 Bilateral Osteoarthritis and 40 Unilateral Osteoarthritis Total 180 Subjects were Screened out of which 61 subjects with Bilateral Osteoarthritis And 40 Subjects with Unilateral Osteoarthritis selected as per inclusion criteria. Dominant leg was noted by asking Subjects to perform 2 tasks 1) Kicking Vestibular ball 2) Stepping up stepper between this two-task cognitive distraction were implemented. Then co-relation of Osteoarthritis knee and Dominant side was analysed.

Results: From statistical analysis of above study it was found that there is moderate 60%-70% co-relation of dominant leg and osteoarthritis knee in both Bilateral and Unilateral Osteoarthritis.

Conclusion: From above study it is concluded that Chances of Osteoarthritis in Dominant limb is moderately high than non-dominant limb in Osteoarthritis.

Key word: Dominant Limb, Osteoarthritis Knee, Degenerative arthritis





Effectiveness Of “Vims Knee Traction Unit” For Increase In Knee Joint Space In Patients With Knee Osteoarthritis: An Observational Study

Dr. Kajol Rajendra Dethe (PT)¹, Dr. Deepak Anap (PT) (PhD)²

¹ Post Graduate Student of Department Musculoskeletal Physiotherapy, DVVPF's College of Physiotherapy, Ahmednagar, Maharashtra, India

² Professional and HOD of Department Musculoskeletal Physiotherapy, DVVPF's College of Ahmednagar, Maharashtra, India

ABSTRACT

Background: Osteoarthritis (OA) is degenerative joint disease which causes deterioration of the joint structures leading to narrowing of the joint space. In general, the goals of the clinical management of knee degenerative arthritis are to provide pain relief and to maintain or to improve physical functionality and to increase the joint space.

Materials and Methods: 10 patients of Knee osteoarthritis were taken of Grade >2 by Kellgren Lawrence Grade score and by ACR criteria. Radiographic X-ray were taken of each individual by using VIMS KNEE TRACTION UNIT with different degrees and taking images without traction and with traction. 6% of the participant's weight will be taken. Free weights will be used for applying knee joint traction therapy.

Results: “VIMS KNEE TRACTION UNIT” using different degrees for patients with knee osteoarthritis was effective with applying knee joint traction therapy with free weights more than without traction. Results showed extremely significant effect for increase in knee joint space in patients with knee osteoarthritis with p value $p < 0.0001$.

Conclusion: “VIMS KNEE TRACTION UNIT” showed the significant effect for increase in knee joint space with and without traction in patients with knee osteoarthritis.

Keywords: Knee Osteoarthritis, Traction therapy, Free weights





Knowledge about Osteoarthritis Clinical Practice Guidelines in Physiotherapists: A cross-sectional survey

Dr. Kavya Prajapati (PT)¹, Dr. Jayshree M. Sutaria (PT)²

¹ MPT (Neuroscience) Student, GPC, Ahmedabad, ² MPT (Orthopaedics), Lecturer, GPC, Ahmedabad

ABSTRACT

Background: Osteoarthritis is the most prevalent joint disease, and one of the most common causes of disability worldwide, for whose management there are several international Clinical Practice Guidelines (CPGs) which have been released. Clinical practice guidelines are “systematically developed statements which assists practitioner and patient decisions about appropriate health care for specific clinical circumstances”. In osteoarthritis, the European League Against Rheumatism (EULAR), Osteoarthritis Research Society International (OARSI) and the National Institute for Health and Care Excellence (NICE) CPGs recommend exercise and education as first-line interventions for their ability to reduce pain and disability, regardless of the severity of the disease. This study is intended to explore knowledge about Osteoarthritis Clinical Practice Guidelines in Physiotherapists.

Method Study Duration: 10 days **Study Design:** Cross Sectional Survey **Sample Size:** 152 **Study Population:** Physiotherapists **Sampling Method:** Convenient Sampling **Procedure:** The study was done using Google Form questionnaire which was sent via social media platforms and mail to physiotherapists. Data was collected after taking informed consent. Data analysis was done using appropriate tests.

Result : Out of 152 Participants 90.1% (n=137) have heard about Osteoarthritis Clinical Practice Guidelines and 78.4% (n=113) have used OA CPG while treating OA patients. However, the result of this study shows that only 47.9% physiotherapists have knowledge about Osteoarthritis Clinical Practice Guidelines.

Conclusion : This study concluded that there is low to moderate knowledge about Osteoarthritis Clinical Practice Guidelines among Physiotherapists.

Key Words : Osteoarthritis, Clinical Practice Guidelines, Physiotherapists, Knowledge





Effect Of Physiotherapy Intervention For Pain Manegmt And Improving Hip Muscles Strength In Hip Osteoarthritis

Dr. Manasi Prakash Chavarkar (PT)¹, Dr. Suraj B Kanase (PT)²

1. PG, Krishna College of Physiotherapy, Krishna Institute of Medical science, Karad.

2 Associate Professor, Krishna College of Physiotherapy, Krishna Institute of Medical science, Karad.

ABSTRACT

Background: Osteoarthritis is a common entity that affect the hip joint. The muscles provide essential support to a joint, and therefore muscle weakness and atrophy may occur in the presence of joint pathology, such as in osteoarthritis (OA). The gluteal muscles provide an important stability in the hip joint and evidence exists for gluteal weakness in hip OA. Therefore, physiotherapy intervention should be addressed.

Method: An Experimental study was carried out among subject with hip osteoarthritis between the age group of 50-80 years with unilateral or bilateral hip pain. A total 40 subjects with hip OA including both male and female were selected based on inclusion and exclusion criteria. Subjects were divided into two groups, Group A (Exercise group) and Group B (Non exercise group). They were verbally introduced regarding their demographic. Subjects in Group A performed manual therapy and therapeutic exercises. Subjects attended treatment sessions over a period of 4 weeks for manual therapy and performed therapeutic exercise as home program. Pre and Post treatment assessment of pain using NPRS (Numerical pain rating scale), hip ROM using goniometer and hip muscle strength using hand held dynamometer was done.

Result: Baseline to 4 weeks follow up outcomes were as follows: numerical pain rating scale (NPRS) scores improved from 6.23(± 1.83) to 2.7(± 1.84), Hip flexion Range of motion (ROM) improved from 46.94 degrees (± 10.9) to 110 degrees (± 9.2) and internal rotation ROM improved from 19.2 degrees (± 8.9) to 31.77 degrees (± 9.1). Improvement in NPRS, hip ROM and hip strength measures reached statistical significance ($P < 0.05$) at 4 weeks.

Conclusion: Physiotherapy intervention had significant effect on pain modulation and improving hip muscle strength, which are important for hip function. This study fulfilled the need for older adults and provides evidence of the benefit of physiotherapy intervention in management of hip osteoarthritis.

Keywords: Hip osteoarthritis, Hip muscle strength, Handheld dynamometer.





Pain, Physical Function, And Quality Of Life Postmenopausal Women With In Knee Osteoarthritis: Narrative Review

Dr. Sanjana .P. Yadav (PT)¹, Dr. Suraj Kanase (PT)²

1 PG Student, 2 Associate Professor And Head of Department of Neurosciences,
Krishna Institute of Medical Sciences Deemed to be University, Karad, Maharashtra, India

ABSTRACT

Background: Knee osteoarthritis is a chronic, degenerative disease which results in damage to articular cartilage which leads to joint pain, stiffness, limited range of motion, crepitus, joint effusion, deformities, bony enlargements and various grades of inflammation. This signs and symptoms are reliable indicator of future disability.

Method: We performed a narrative review on pain, physical function, and quality of life in postmenopausal women with knee osteoarthritis, in urban population and discussed evidence-based studies. For purpose of the review, an electronic search for relevant articles using PUBMED, Google Scholar, MEDLINE, ResearchGate databases was done upto September 2021. In addition to the electronic search, retrieved articles were searched manually for relevant studies. Articles were selected based on authors, expertise, self- knowledge and reflective factors. The inclusion criteria of the review were: A) age >40 years. B) Diagnosis of knee OA according to American College of Rheumatology (ACR) classification criteria. C) only postmenopausal women.

Result: The current review included 10 studies that fulfilled the inclusion criteria. These studies showed significantly higher VAS, pain/ discomfort EQ-5D and WOMAC pain and function scores among the patients.

Conclusion: The reviewed studies provided evidence that subjects show severity of clinical manifestations leading to pain and affecting functional ability and quality of life in postmenopausal women with knee osteoarthritis.

Keywords: postmenopausal women, knee osteoarthritis





Post-Viral Polyarthrititis: Case Report

Dr. Rutuja Arulekar (PT)¹, Dr. Sandeep shinde (PT)²

¹ PG student, ² Associate professor, Department of PT in Musculoskeletal Sciences Department, Krishna Institute of Medical Sciences Deemed to be University, Karad, Maharashtra, India

ABSTRACT

Background: Viral infection is the common cause of the acute and self-limiting joint pain. They are often insidious and can present abruptly. Virus causes the immune system to become over active and attack. This causes inflammation and stress in the body. The specific cause of virus-induced arthritis is not always investigated thus, the prevalence of viruses as the etiology of arthritis may be underestimated.

Case Report: A 15 years old male complains of fever with dry cough for 2 days followed by Multiple joint pain and soft tissue pain since 2 months . Swelling was also noticed in both wrist and knee for a week. No particular pattern of joint pain was noticed. VAS (visual analog scale) was taken to check the pain intensity which was 9.2 Ranges of all joints were full except wrist flexion which was 35 and wrist extension which was 40 which was checked with standard goniometer. MMT (manual muscle testing) for wrist flexion was -3 and extension was -3 elbow flexion it was 4 and extension it was 5. Knee flexion and extension it was 4 and ankle dorsiflexion and plantar flexion it was 4. Investigations like Blood reports and urine tests were done which did not show any significant changes in the values. Erythrocyte sedimentation rate and C-Reactive Protein were also in the normal range. Rheumatoid factor and anti CCP (cyclic citrullinated peptide) antibody came negative. 2D echo was done to rule out RHD. Radiographic investigations also came out to be normal . Diagnostic measures did not give any significant relevance hence the patient was diagnosed with post viral poly-arthritis. **DRUG HISTORY:** Tab Azithromycin ,Syp. Depura solution, Tab Solvin , Tab Myospas , Tab HCQS , Tab Brufen , Tab Lanol ER . Along with the medications patient was also advised vigorous physiotherapy for the same.

Result: Patients VAS (visual analog scale) was 9.2 before starting the physiotherapy treatment and post treatment after 4 weeks it was 4.5, ROM for wrist joint before treatment was 35 flexion and 40 extension and after treatment was 70 flexion and 70 extensions. MMT(manual muscle testing) of wrist flexion and extension was (grade -3) and post treatment after 4 weeks it was (grade 4). Knee flexion and extension was (grade 4) and post treatment it was (grade 5). Ankle plantarflexion and dorsiflexion was (grade 4) and post treatment it was (grade 5). This showed regular physiotherapy sessions which included proper symptomatic treatment and strengthening exercises helped the patient to improve the condition.

Conclusion: This concluded that early physiotherapy management is effective in reducing pain increasing mobility and increasing the strength and endurance.

Keywords: polyarthrititis, case report, arthritis, viral





Role of physiotherapy in psoriatic arthritis

Dr. Pradnya Dhake (PT)¹, Dr. Sandeep Shinde (PT)²

1 PG student, faculty of physiotherapy, 2 Associate professor, Department of PT in Musculoskeletal Sciences Department, Krishna Institute of Medical Sciences Deemed to be University, Karad, Maharashtra, India

ABSTRACT

Background: Psoriatic arthritis is a form of arthritis that affects Joint pain, stiffness and swelling are the main signs in psoriasis condition. In psoriatic arthritis body's immune system begins to attack healthy cells and tissue. Due to abnormal immune response inflammation in joints as well as overproduction of skin cells occur. Over-time, arthritis multilane destroys the small bones in the hands, especially the fingers, leading to permanent deformity and disability. In psoriatic athritis main focus is on controlling symptoms and preventing damage to your joints, because there is no complete cure exists in psoriatic athritis. Without treatment, psoriatic arthritis may be chances of disabling.

Method: We performed critical narrative review on role of physiotherapy in psoriatic arthritis. The article selection process was systematic. Articles were selected relevant key words in PUBMED, GOOGLE SCHOLAR, MEDLINE, CINHAI database up to the September 2021. The inclusion criteria of the review were 1) Physiotherapy practice with psoriatic arthritis 2) Physical activity in psoriatic arthritis. 3) Chronic psoriatic arthritis and co-morbidities.

Result: The current review included 9 studies that fulfill the inclusion criteria. 4 studies suggested that, psoriatic arthritis involved mostly cardiovascular problem, musculoskeletal problem which can be improved with the help of physiotherapy, 3 studies show that rehabilitation of psoriatic arthritis is helpful while the other 2 showed no significant findings related to physiotherapy treatment.

Conclusion: Evidences demonstrate that potential benefit in psoriatic arthritis by giving physiotherapy treatment and rehabilitation. Patient with psoriatic arthritis have impaired functional and quality of life. It may involve co-morbidities such as obesity, musculoskeletal disease, cardiovascular disease or fibromyalgia. That can improve further benefit of non-pharmacological approach, such as exercise such as aerobic exercise, cardio respiratory exercise; low level laser therapy which increases self-repair activities of living tissues also increases cell membrane permeability and metabolism, patient education will improve clinical conditions.

Keywords: Psoriasis arthritis, exercise, physiotherapy, cardiovascular, musculoskeletal





The Effect Of A Joint Protection Education Programme For People With Rheumatoid Arthritis: An Evidence Based Study

Dr. Hardik Ashwinbhai Ramani (PT)¹, Dr. Manmitkaur A. Gill (PT)²

¹ PG Student (MPT – Sports Science) GPC, Ahmedabad,

² MPT (Orthopedics) Sr. Lecturer, GPC, Ahmedabad

ABSTRACT

Background: Rheumatoid arthritis (RA) is a chronic, disabling disease characterized by chronic inflammation of joints, results in progressive joint destruction with deformities and various degrees of limitation in activities of daily living. People with RA can play an important part in the management of their disease. They are recommended to use a wide variety of educational programs, which have become a well-established part of RA treatment. Joint protection (JP) focuses on the use of assistive devices and alternative movement patterns of affected joints to perform everyday activities. Education can help patients to develop the necessary self-management skills and prepare them to make decisions about adjustments in their treatment regimen. This achievement will permit longer-term benefits, reducing joint stress, and reducing the risk of deformity.

Method: Relevant articles were searched using the various search engine Google scholar, PubMed, Science Direct, Cochrane, Cinahl. Articles were selected from 1998-2020.

Result: Total 8 articles were reviewed, 6 articles supported positive result that joint protection education programmed significantly improves pain and disease status, functional ability and adherence among rheumatoid patients and 2 showed no effect of joint protection education programmed.

Conclusion: Hence after reviewing the above articles we can conclude that Joint protection education programme significantly improves pain and disease status, functional ability and adherence among rheumatoid patients.

Key Words: Rheumatoid arthritis, Joint protection, Patient education





Physiotherapy For Spinal Dysfunction In Rheumatoid Arthritis: Current Evidences And Future Directions

Dr. Ghadage Pradnya Pradip (PT)¹, Dr. Sandeep Shinde (PT)²

1 PG student, 2 Associate Professor, Department of PT in Musculoskeletal sciences,
Krishna Institute of Medical Sciences Deemed to be University, Karad, Maharashtra, India

ABSTRACT

Background: Rheumatoid arthritis (RA) is a autoimmune disease which results in chronic inflammation and destruction of synovial joints. In addition to the articular features of the disease, extraarticular involvement is evident. The most common joints are of the hands, wrists, ankle, feet, shoulders, elbows, knees. The joints of the cervical, lumbar spine, like other joints affected in course of RA, cervical lesion was found in 42.3% of patients and lumbar lesion is 56.2%. Cervical endplate erosion (EE) found 61.2% and lumbar erosion is 39.3%. High disease activity and peripheral joint deterioration (stage IV) were associated with concurrent cervical and lumbar EE to treat the spinal dysfunction physiotherapy is widely recommended in national and international guideline for managing RA. While interventions focused on the retraining of cervical and lumbar muscle function have shown favourable responses in alleviating Mechanical lumbar and cervical dysfunction.

Methodology: We performed a critical narrative review on assessment and management of cervical spine involvement in course of Rheumatoid Arthritis. Articles were selected based on authors expertise, self-knowledge, reflective practice. For the purpose of review, an electronic search for relevant articles using PUBMED, MEDLINE, and CINHALL database, Google Scholar up to September 2021 was performed. Systematic review, meta-analysis, interventional studies related to rheumatoid arthritis and spinal dysfunction were included.

Result: Initially, 15 studies were identified. 10 studies met the inclusion criteria for further analysis. A number of studies reported improvement in muscle strength, physical function, aerobic capacity with dynamic exercise. The studies suggested that short term land based aerobic exercise and muscle strengthening exercise of moderate to high intensity proven effective. Training like spinal stabilization exercises, resistance exercises, joint range of motion exercises and moderate intensity pool therapy in early stage of disease for RA patients has been shown to be efficacious in reversing the symptoms of spinal dysfunction and substantially improving activities of daily living. There is some evidence to suggest that hydrotherapy has a positive role in improving the health status of patients compared with no or other interventions in the short term.

Conclusion: Thus, all RA patients should be encouraged to include Spinal stabilization exercises as an early intervention to reduce further complication, range of motion and resistance exercise training and as part of routine care also patient education and joint protection is important. Also, hydrotherapy is effective in early stage. So, to improve the health status and quality of life early intervention for maintaining spinal stability is need to be consider.

Key words: Rheumatoid arthritis, Spinal Dysfunction, cervical spine, Lumbar spine cervical spine instabilities.





Effect Of Home-Based Exercise Programme On Physical Functioning In Rheumatoid Arthritis During Covid 19 Pandemic

Dr. Avaghade Rutuja (PT)¹, Dr. Priyanka Nimbalkar (PT)², Dr. Sandeep Shinde (PT)³

¹ PG student, Faculty of Physiotherapy, 2 MPT Musculoskeletal Sciences, Faculty of Physiotherapy,

³ Associate Professor, Department of PT in Musculoskeletal Sciences,

Krishna Institute of Medical Sciences Deemed to be University, Karad, Maharashtra, India

ABSTRACT

Background: Rheumatoid arthritis is a systemic disease with multiple impacts on all aspects of individual's life. The coronavirus disease (COVID-19) has become a main health problem and has spread all over the world. Many countries have enacted quarantine or recommended people to stay at home. The amount of physical activity throughout the day may have been reduced consider in general population, there is strong evidence involving physical inactivity and sedentary behavior, with little physical activity levels being with lesser health. In RA Physical activity has benefits in regard to both physical and psychological health whereas sedentary behavior is related to poorer health outcomes in this current pandemic situation. Home based exercises are basically for those individuals who are unable to come in OPD for treatment. Physiotherapists and researchers are increasingly recognizing the value of home-based exercise, during covid19 lockdown which is a time efficient and convenient treatment modality for patient. It can be performed by patients individually at home, and without professional equipment.

Methodology: Subjects were selected for the study according to selection criteria. Inclusion criteria were both male and female, age group 30-60years, diagnosed with RA more than 5 to 10 years and on regular medications. 30 participants were randomly allocated into two groups. Group A received the conventional exercises and other group structured home-based exercises. Home-based exercise program can provide an opportunity for people to stay physically health by practicing simple movements with low-moderate to high intensity in the time of staying at home. A conventional exercise programme is a programme consisting of calmly performed exercises for the joints not leading to tiredness, for example, bending and stretching. Conventional exercise programmes with low impact isometric exercises and "range of motion" exercises were advocated as it doesn't possess harmful effects on disease activity and joint damage. Intervention was given for 5 days per week for 6 week respectively. Pre and Post assessment was taken.

Results: Total number of participants was 30 and they were divided into two groups and were assessed for VAS, HAQ and TUG respectively. Between the groups the VAS values were for group 'A' (At rest) 2.35 ± 0.5 , 'B' 1.18 ± 0.25 along with P value < 0.0001 for group 'A' (On activity) 5 ± 0.89 , B 2.86 ± 0.54 along with P value < 0.0001 . HAQ values for group A 2.53 ± 0.37 , B 2.16 ± 0.31 along with P values 0.0065. Time up and go test values for group 'A' 10.14 ± 0.87 , B 9.22 ± 1.06 along with P values 0.0166.

Conclusion: It was concluded that home-based exercises has shown significant improvement pain, quality of life, functional mobility. Thus, the study provided the evidence to support, home based exercise has shown significant improvement in pain, functional mobility.

Keywords: Functional mobility, Rheumatoid arthritis, Home-based exercise





Effectiveness of resistance training along with joint protection strategies on hand function and quality of life in patients with hand arthritis

Dr. Swati Kajbaje (PT)¹, Dr. Suraj Kanase (PT)²

1. MPTh student, Department of physiotherapy, 2. MPTh in Neurosciences, Associate Professor and Head of Department of Neurosciences, Krishna Institute of Medical Sciences Deemed to be University, Karad, Maharashtra, India

ABSTRACT

Background: Arthritis is inflammation in a joint. Several forms of arthritis affect the joints in the wrist, hand and fingers. Osteoarthritis is a degenerative condition in which cartilage wears down over time. Rheumatoid arthritis and psoriatic arthritis are systemic, inflammatory diseases. Clinical characteristics of hand arthritis typically involve pain, reduced hand function, decreased hand grip strength, poor quality of life, joint degeneration, bony enlargements and joint swelling. Currently, there is no cure for hand arthritis, but many rehabilitation interventions are targeting towards helping individuals to maintain functional performance with activities of daily living (ADLs), mediate symptoms, and prevent deformities. But there is a limited study on how resistance training along with joint protection strategies effects on hand functions and quality of life in patients with hand arthritis. Hence the need.

Methodology: A survey was carried out in Krishna college of Physiotherapy. Amongst 24 patients 20 were selected according to inclusive and exclusive criteria and were randomly divided into Group A (n=10) which received Resistance training and Group B (n=10) which received Resistance training along with joint protection strategies- thrice a week, for 4 weeks. Patients were evaluated pre and post treatment for Hand functions by Arthritis hand function test (AHFT) and Quality of life by European Quality of Life 5 (EQ-5D-3L). The data obtained were statistically analyzed.

Results: Data was analyzed where it showed that it was normal distribution using sharpo-wilk test hence, Paired t test was performed to analyses data within the groups and unpaired t test was performed between groups. . For group A Pre and Post intervention AHFT and European quality of life $p < 0.0001$ which shows extremely significant. For group B Pre and Post intervention AHFT and European quality of life $p < 0.0001$ which shows extremely significant. Between group comparison For group A post intervention AHFT and European quality of life was with $p < 0.0003$. and for group B post intervention AHFT and European quality of life was with $p < 0.0001$ which shows extremely significant.

Conclusion: The study concludes that resistance training along with joint protection strategies was more effective than resistance training alone in improving hand functions and quality of life in patients with hand arthritis.

Keywords: Arthritis, Resistance training, Joint protection strategies, quality of life, hand arthritis





Role Of Physiotherapy In Reactive Arthritis

Dr. Chaitali Mali (PT)¹, Dr. Suraj Kanase (PT)²

¹ PG student, faculty of physiotherapy, ² Associate professor and Head of Department of Neurosciences,
Krishna Institute of Medical Sciences Deemed to be University, Karad, Maharashtra, India

ABSTRACT

Background: Reactive arthritis is an inflammatory arthritis that usually follows bacterial, gastrointestinal or urogenital infection. Reactive arthritis usually affects young aged people between 20 - 40 years with almost same frequency among males and females. Reactive arthritis is characterized by asymmetrical arthritis usually affects two or more large joints of lower limb. The clinical manifestation includes peripheral arthritis, pelvic and axial syndrome (spinal involvement with sacroiliitis) and inflammatory low back pain. Strengthening exercises are key component to prevent muscle wasting. Joint inflammation tends to progress toward ankylosing spondylitis which can be prevented by early physiotherapy management.

Method: We performed critical narrative review on role of physiotherapy in reactive arthritis. The article selection process was systematic. Articles were selected relevant key words in PUBMED, GOOGLE SCHOLAR, MEDLINE, CINHAI database up to the September 2021. The inclusion criteria of the review were 1) Physiotherapy practice with reactive arthritis. 2) Chronic reactive arthritis and co-morbidities.

Result: The current review includes 8 studies that fulfill the inclusion criteria. 3 studies showed that reactive arthritis mostly involved musculoskeletal system, cardiovascular system which can be improved with the help of physiotherapy. 2 studies suggested that rehabilitation is beneficial in reactive arthritis.

Conclusion: Evidence demonstrate that in reactive arthritis physiotherapy treatment and rehabilitation is highly beneficial. Patient with reactive arthritis may have multiple joint pain and swelling. This can be improved by physiotherapy treatment such as aerobic exercise which include low impact activity. Strengthening exercises are key component to prevent muscle wasting. Joint inflammation tends to progress toward ankylosing spondylitis which can be prevented by early physiotherapy management.

Key words : Reactive arthritis, physiotherapy, exercise, musculoskeletal, cardiovascular





Physical functional assessment tools in pediatric rheumatology-A narrative review

Dr. Akshada Pravin Yerande (PT)¹, Dr. Suraj Kanase (PT)²

¹ PG student, faculty of physiotherapy, ² Associate professor and Head of Department of Neurosciences, Krishna Institute of Medical Sciences Deemed to be University, Karad, Maharashtra, India

ABSTRACT

Background: Rheumatic diseases involve musculoskeletal disorder that include physical functional impairment and significantly affect the children's quality of life (QOL). The complications and the measurement of these outcomes are due chronic, fluctuating nature of the disease which differ from patient to patient. Children's growing needs and expectations, less use of age-specific questionnaires further influences this evaluation. This article will review the different assessment tool which are related to physical function, quality of life and health status.

Methods: We narrative review was done to study the functional assessment tools in juvenile rheumatoid arthritis patients. For the purpose of the review, an electronic search for relevant articles using PUBMED, MEDLINE, Pedro, Research Gate, Google Scholar and CINHALL databases up to September 2021 was performed. The electronic search, retrieved articles were searched for relevant studies. Articles were selected based on authors' expertise, self-knowledge, and reflective practice. The inclusion criteria of the review were- A) Physical status, health function and health related QOL. B) Sensitivity and specificity C) Reliability D) Validity

Result: The current study included 20 studies that fulfilled the inclusion criteria and suggested that certain tools are effective in assessment of domains like pain and physical function. Few articles suggested that certain tools are effective in assessment of domains like pain and physical function. Whereas few give a good measure of pre and post physical therapy and pharmacological intervention. The studies used for the review consisted of scales or questionnaire which were either qualitative or quantitative type.

Conclusion: The reviewed studies provided evidence that it is beneficial for assessing the function. There was lack of data available in which in which one assessment tool measured all the parameters of juvenile rheumatoid arthritis. Also in recent advances, video-based motion capture system has turned out to be an effective modern functional assessment tool in juvenile rheumatoid arthritis.

Keywords: Arthritis, juvenile rheumatoid arthritis, Childhood Health Assessment Questionnaire (CHAQ), Juvenile Arthritis Functional Assessment Scale (JAFAS), Juvenile Arthritis Functional Assessment Report (JAFAR)





Long Term Consequences Of Tuberculous Arthritis

Dr. ThundilJibin Jacob (PT)¹, Dr. Sandeep Shinde (PT)²

1 PG Student, Faculty of Physiotherapy, 2 Associate Professor, Department of PT in Musculoskeletal Sciences Department,
Krishna Institute of Medical Sciences Deemed to be University, Karad, Maharashtra, India

ABSTRACT

Background: Tuberculosis (TB) is on the rise particularly in developing countries like India. The lung happens to be the most common site for the occurrence of the infection, but extra pulmonary manifestation is not that uncommon. It is caused by the bacteria *Mycobacterium tuberculosis*. Joint involvement in TB is usually monoarticular, rarely may present as polyarthritis. Tuberculous arthritis is a rare polyarthritis occurring in patients with tuberculous infections. It usually presents as a slowly progressive mono-arthritis affecting predominantly the major weight bearing joints. Symptoms include decreased movement of joints, joint swelling with warm, tender joints, muscle atrophy, muscle spasms. Rheumatoid arthritis is a chronic and painful clinical condition that leads to progressive joint damage, disability, deterioration in quality of life. Even mild inflammation may result in irreversible damage and permanent disability. In most patients, the clinical course is progressive, and structural damage develops in the first 2 years. The aim of RA management is to achieve pain relief and prevent joint damage and functional loss.

Method: We performed a narrative review on correlation between tuberculosis and rheumatoid arthritis and discuss evidence-based studies. For the purpose of the review, an electronic search for relevant articles using PUBMED, MEDLINE, PEDRO, Research gate, Google Scholar and CINAHL databases up to September 2021 was performed. In addition to the electronic search, retrieved articles were searched manually for relevant studies. Articles were selected on authors expertise, self – knowledge, and reflective practice. The inclusion criteria of the review were :1) pain over distal extremities 2) test for mycobacterium tuberculosis infection 3) Degenerative changes in radiographs 4) patient detected for tuberculosis

Result: The current review included 15 studies that fulfilled the inclusion criteria. These studies showed beneficial results of physiotherapy interventions that improve the quality of life of patients with rheumatoid arthritis and showed long term effects and importance of judicious physical activities. Studies showed physiotherapy intervention reduce in inflammation and also helps in reduction of pain. Interventions also helps to regain muscle strength and in prevention of further deformity.

Conclusion: The reviewed studies showed that the evidence for physiotherapy practice is low to moderate in chronic phase. The physiotherapy may be effective if they include patient centred treatment approach, home exercises and guidelines for joint protection, positioning and appropriate recreational activities. Also by physiotherapy treatment, co-morbidities can be treated by which quality of life can be improved.

KEYWORDS: Tuberculosis; Rheumatoid arthritis; tuberculous rheumatism; reactive arthritis; Tuberculous Arthritis





Physical Activity For Post- Viral Arthralgia: Status Of Current Physiotherapy Practice.

Dr. Apurva G. Mehta (PT)¹, Dr. Sandeep Shinde (PT)²

1 PG student, Faculty of Physiotherapy, 2 Associate professor, Department of PT in Musculoskeletal Sciences Department,
Krishna Institute of Medical Sciences Deemed to be University, Karad, Maharashtra, India

ABSTRACT

Background: Viral infections are recognized cause of arthralgia and arthritis with a large number of causative agents including chikungunya, dengue, parvovirus B19, hepatitis B and C, alpha virus, HIV. Chronic symptoms of viral infection lead to severe disability because of joint pain and subsequent immobility. Joint pain is the most common clinical manifestation of viral infection and is difficult to control as well as compromising the quality of life of affected patients. There is little known about the physiotherapy for managing the pain caused by viral infection; hence, it was necessary to find current status of practice to diagnose and appropriately manage pain and residual disability among patients with post viral arthralgia.

Methodology: Physical activity for post viral arthralgia were discussed; for the purpose of the review electronic research for relevant articles using PUBMED, MEDLINE, Research Gate and Google Scholar databases up to September 2021 was performed. In addition to the electronic search, retrieved articles were searched manually for relevant studies. Selection criteria of the review were studies with post viral arthralgia and their physiotherapeutic treatment. Physical Therapy treatments were recommended as Appropriate, Uncertain, or Not Appropriate, for each of four clinical sub-phenotypes and accompanied by 1–10 risk and benefit scores.

Result: Some studies suggested that physiotherapy is very important to treat post viral arthralgia. Few studies showed electrotherapeutic modalities like Ultrasound, LASER, TENS were effective in reduction of pain. One study says that cryotherapy is helpful in early interventions while few studies provide 4-week treatment protocol where in early phase Pain-free active exercises were to be given along with home-based exercises. In intermediate phase partial weight bearing was to be effective and in late phase aerobic as well as stretching exercises was effective to improve quality of life.

Conclusion: The above review provides guidance to patients and practitioners on treatments applicable to all individuals with post viral arthralgia, as well as therapies that can be considered according to individualized patient needs and preferences. More research and guidelines are needed to effectively evaluate and treat post viral arthralgia. It is advised that regular implementation of such strategies is required to enhance its use in daily practice.

Keywords: Chikungunya, Physiotherapy treatment, Post viral arthralgia





National Research Conference on Arthritis

Index: UG Category

REGISTRATION NO.	PRESENTOR	TITLE
COPT/NARC/UG-112	Janvi Rajpal	To Findout Arthritic Deformities By Innovated Device – Dr. Frame (Posture Vault Assessment)
COPT/NARC/UG-123	Madhuri Vishwambhare	Measuring Isometric Strength At 30 Degree And 60 Degree Of Knee Flexion Using Isometric Strength Testing Device In Knee Osteoarthritis. A Cross -Sectional Study.
COPT/NARC/UG-102	Shrushti Shah	Prevalance Of Patellar Position In Patients With Knee Pain – A Cross- Sectional Study.
COPT/NARC/UG-100	Komal Dhage	Effect Of Weight Bearing On Knee Oa: A Prospective Observational Study.
COPT/NARC/UG-144	Mridula Dua	Physiotherapy In Juvenile Idiopathic Arthritis
COPT/NARC/UG-114	Latasha Ladhe.	Arthritic / Postural Deformity Measurer An Innovative Device Dgl-Meter(Forward Head Measurer)





To Find Out Arthritic Deformities By Innovated Device – Dr. Frame (Posture Vault Assessment)

Miss. Janvi B. Rajpal¹, Dr. Shrikant B. Darade²

1 UG Student, MCPT, 2 Assistant Professor, MCPT

ABSTRACT

Aim – To study the effect of DR. FRAME for postural deformity

Objective – To find out the effect of DR. FRAME on postural deformity

Methodology- The instructor will ask the subject to stand in the DR. FRAME as he/she stands normally. Instructor will assess the anterior, lateral and posterior view of posture by using plumb line present at the centre of the DR. FRAME. Level of the body landmarks is also assessed.

Material – Waste material (PVC Pipe)

Result - DR. FRAME is cost effective, easy to use, also reliable as compared to other devices present till now.

Conclusion – DR. FRAME is cost effective and an innovative tool to find out Human Posture vault.

Advantages- Assess posture, bilateral symmetry, anatomic landmarks, Helps in diagnosis of structural disorder, correction of structural disorder, physiotherapy assessment and intervention. Used for paediatric to geriatric generations.

Key Words – Arthritis, Posture, Deformity.





Measuring Isometric Strength At 30 Degree And 60 Degree Of Knee Flexion Using Isometric Strength Testing Device In Knee Osteoarthritis. A Cross Sectional Study.

Madhuri Vishwambhare¹, Dr. Shwetanjali Bhagra²

1 UG student, 2 Assistant Professor, D.V.V.P.Fs College of Physiotherapy, Ahmednagar

ABSTRACT

Background: Muscle strength is important for all the daily activities like running, walking, climbing stairs. Decrease in the muscle strength leads to reduce mobility, underlying musculoskeletal disorders of knee and increase in risk of fall. Isometric strength is static form of contraction in which muscle contract and produce the force without changing length of muscle. Quadriceps is the main muscle of locomotion, posture and balance.

Objective: To evaluate the isometric strength at 30 degree and 60 degree of knee flexion using isometric strength testing device in patients with Knee Osteoarthritis.

Method: 15 symptomatic patients with knee pain, 10 female and 5 males were included in the study age group between 40-60 years. Patients were included in the study as per the inclusion & exclusion criteria. The device was set at 30 and 60 degree of knee flexion and the patient was asked to contract the knee by performing knee extensor isometric contraction to its maximum level to determine at which angle the quadriceps force production is maximum. Data was analyzed using paired t test.

Result: Isometric strength of quadriceps muscle was found to be more at 60 degree is more as compared to that of 30 degree of knee flexion.

Conclusion: The present study concluded that the Maximum Quadriceps force production was obtained at 60 degree of knee flexion in patients with osteoarthritis.

Clinical implications: As the present study concludes maximum quadriceps force production is achieved at 60 degree of knee flexion, so the patients with knee osteoarthritis can be trained at an angle specific for increasing quadriceps isometric muscle strength at 60 degree of knee flexion.

Keywords: Quadriceps, Isometric strength, Angle specific, Knee Osteoarthritis.





Prevalance Of Patellar Position In Patients With Knee Pain – A Cross- Sectional Study.

Srushti Shah ¹, Dr. Shwetanjali Bhagra²

1 UG Student, 2 Assistant Professor, D.V.V.P.Fs College of Physiotherapy, Ahmednagar

ABSTRACT

Background: Knee pain is a common complain seen in people of all ages. It may be a result of injury, ruptured ligament, OA or even alteration in the position of patella. A high riding patella a.k.a patella alta is associated with patellofemoral pain and instability whereas a low riding patella a.k.a patella baja leads to limited range of motion of the knee. This study aims to find the prevalence of alteration in patellar position in patients with knee pain.

Method: Lateral radiographs of 30 patients within the age group of 40yrs to 60 yrs, both male and female, with complain of knee pain were obtained. Patellar position was measured using Insall-Salvati ratio by dividing the length of patellar tendon (LT) by length of patella (LP).

Result: The overall mean of LT/LP ratio was found to be 1.43 with incidence of 76.66% (23/30) for patella alta.

Conclusion: The incidence of patella alta was found to be 76.66% with Insall- Salvati ratio hence, indicating relevance of patella position in knee pain.

Keywords : Patellar Position, Knee pain, Lateral radiograph.





Effect Of Weight Bearing On Knee OA: A Prospective Observational Study.

Miss. Komal Dhage¹, Dr. Shwetajali Bhagra²

1 UG Student, 2 Assistant Professor, D.V.V.P.F s College of Physiotherapy, Ahmednagar

ABSTRACT

Background: Osteoarthritis (OA) is a common disease in India in the young old age people. OA at the knee joint is a leading cause of functional impairment and disability which is correlated with deterioration of daily activities. Weight-bearing dissymmetry in standing and walking is a well-known phenomenon in OA knee.

Method: after obtaining the IEC from the institute, in a sample size of 50 patients of age 50-55 years, the patient X-ray was assessed before and after 1 year. The follow up of the patient was taken for in that they do their daily activities regularly then after a 1 year. the X-ray changes were examined between the knee joint space using weight bearing axis.

Result: This study found that there is significant difference present in weight bearing distance which was seen in X-ray when it was assessed before and after 1 year of follow up. It has been found that reduced distance were involved with activities such as long standing, lifting heavy weight during work and walking activities.

Conclusion: It has been found that increased weight bearing activities increases the chances of developing knee osteoarthritis.

Keywords : Osteoarthritis, X-Ray, Weight bearing





Physiotherapy In Juvenile Idiopathic Arthritis

Mridula Dua,

UG Student, Amar Jyoti Institute of Physiotherapy, Delhi University

ABSTRACT

Background: Juvenile Idiopathic Arthritis (JIA) is a chronic inflammatory condition affecting children below the age of 16. The clinical features of the condition vary from localized joint pain and swelling to acute uveitis. JIA requires a multi-disciplinary approach involving a rheumatologist, pediatrician, physical therapist, occupational therapist among others. Physiotherapy plays a key role in both the active as well as inactive periods of the illness.

Methods and Materials : The database literature search was carried out in the electronic databases like Pubmed, Medline, PEDro, and Research gate. Randomized control trials, systematic review, meta-analysis, and case studies included into the review.

Discussion : Research across literature has shown effectiveness of Watsu, conventional hydrotherapy and land based exercise therapy in Juvenile Idiopathic Arthritis. In addition, Pilates has been observed to be of great help. The various joint protection techniques and energy conservation strategies have also been an aid in assuring a better quality of life in such children. The positive effects range from pain alleviation in the acute phases to improved muscle strength, range of motion and cardiovascular fitness in the remission periods. This ultimately results in a better physical as well as social wellbeing of the child.

Conclusion : The review concludes that physiotherapeutic rehabilitative strategies are highly effective in Juvenile Idiopathic Arthritis (JIA).

Key Words : Juvenile Idiopathic Arthritis, Physiotherapy, quality of life





Arthritic / Postural Deformity Measurer An Innovative Device dgl-Meter (Forward Head Measurer)

Miss. Latasha P. Ladhe¹, Dr. Shrikant B. Darade²

1 UG Student, MCPT, 2 Assistant Professor, Motiwala College of Physiotherapy

ABSTRACT

Aim: - To study the effect of DGL-MeTer in forward head posture

Objectives: - To find out the effect of DGL-MeTer in forward head posture

Methodology: - Patient has to sit or stand comfortably, and has to look straight. Instructor will place the DGL-MeTer over the sternal notch and then slide the perpendicular plate till tip of nose. Then record the distance from measuring scale.

Material: - Waste material (wooden stick, scale, Iron material)

Result: -DGL-MeTer is effective in measuring forward head posture and it is cost effective.

Conclusion: - DGL-MeTer is effective in measuring forward head posture along with helps to apply physiotherapy intervention to it. It is cost effective, durable, portable and easy to use by common man. It gives feedback to participants about their posture and can be used to provide ergonomic advice. It used in pediatric to geriatric age group.

Keywords – posture, deformity, forward head.





Dr. Vithalrao Vikhe Patil Foundation's
College of Physiotherapy

Opposite Government Milk Dairy, Post – M.I.D.C.,
 Vadgaon Gupta, Ahmednagar – 414 111
 Ph. 0241-2778042, 2777059
 Website: www.vimscopt.edu.in

