



Musculoskeletal Health Current Awareness Update

August 2024

Welcome to the monthly Musculoskeletal Health Current Awareness Update (MSKH-CAU), produced by UKHSA Knowledge and Library Services. The purpose of this update is to provide the latest research to inform future practice to support the prevention of Musculoskeletal (MSK) conditions.

UKHSA, jointly with NHS England, Versus Arthritis and partners, published the Musculoskeletal Health: 5 Year Prevention Strategic Framework, setting out a clear statement of commitments to promote good MSK health to prevent MSK conditions across the life course. The MSKH CAU resource will provide evidence and knowledge to support the decisions made by health and social care professionals, the wider public health workforce and employers.

Please note that not all the articles and resources referred to in this alert are freely available. Some articles may require an Athens username and password. For further information on Athens accounts please visit [here](#). If you are not eligible to access our library services, then you may want to approach your local health library service.

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Prevention of MSK conditions across the life course

Prevention of MSK conditions across the life course

1. Association Between Osteoporosis and Adiposity Index Reveals Nonlinearity Among Postmenopausal Women and Linearity Among Men Aged over 50 Years

24-07-2024 - National Library of Medicine

CONCLUSION: The impact of obesity and adiposity on osteoporosis varies significantly between women and men. In postmenopausal women, the relationship is nonlinear (U-shaped), with both very low and very high adiposity linked to higher osteoporosis risk. In men over 50, the relationship is linear, with higher adiposity associated with lower osteoporosis risk. The study suggests that ... [Read more...](#)

2. Muscle Strength Identification Based on Isokinetic Testing and Spine Musculoskeletal Modeling

23-07-2024 - National Library of Medicine

Subject-specific spinal musculoskeletal modeling can help understand the spinal loading mechanism during human locomotion. However, existing literature lacks methods to identify the maximum isometric strength of individual spinal muscles. In this study, a muscle strength identification method combining isokinetic testing and musculoskeletal simulations was proposed, ... [Read more...](#)

3. Exercises for the prevention of non-specific low back pain

23-07-2024 - National Library of Medicine

This is a protocol for a Cochrane Review (intervention). The objectives are as follows: To evaluate the effects of exercise alone or exercise plus education compared with inactive control or education alone to prevent non-specific LBP. [Read more...](#)

4. Musculoskeletal disorders in Norway: trends in health care utilization and patient pathways: a nationwide register study

22-07-2024 - National Library of Medicine

CONCLUSION: One third of the Norwegian population consulted health care services due to MSD annually between 2014-2017. GP was the most consulted health care professional. Among MSD patients with long-term use of health care services, 50% were treated by a PT and/or in SHC in addition to a GP. [Read more...](#)

5. Physical activity as mediator between back pain and disability

22-07-2024 - National Library of Medicine

The objective was to explore the mediating role of leisure-time physical activity on the correlation between back pain and disability. A mediation analysis was conducted among the cross-sectional sample of 1330 patients in outpatient clinic. The average age was 47.6 years and 64% were women. For the entire sample, the mediating effect of physical activity remained below 10% of the total effect. [Read more...](#)

6. Therapeutic Interventions for Prevention of Musculoskeletal Pain Among Orthopedic Surgeons

22-07-2024 - National Library of Medicine

Orthopedic surgery is a physically demanding specialty. The factors contributing to musculoskeletal injury among surgeons often stem from positioning the patient, using non-ergonomic instruments, maintaining static postures, and performing repetitive movements. This article focuses on exercise techniques intended to combat the most common problematic static postures held during procedures. [Read more...](#)

7. Musculoskeletal Injuries, Exercise Behaviors, and Reproductive Health Are Related to Physical Fitness of Female First-Responders and Health Care Providers

22-07-2024 - National Library of Medicine

CONCLUSIONS: Physical training programs aimed at supporting parous first-responders or HCPs should emphasize lower body power, lower body strength, and upper body strength. [Read more...](#)

8. Characteristics and outcomes of patients with low back pain with and without radiating leg pain following the GLA:D back program

22-07-2024 - National Library of Medicine

CONCLUSION: In long-lasting (chronic) LBP patients, the LBP + leg pain group improved to the same extent as LBP - alone regarding LBP intensity, disability, and fear of movement following an exercise and patient education program, GLA:D Back. [Read more...](#)

9. Risk factors predicting subtypes of physical frailty incidence stratified by musculoskeletal diseases in community-dwelling older adults: The SONIC study

20-07-2024 - National Library of Medicine

CONCLUSIONS: Older age was a risk factor for subtypes of physical frailty, but other risk factors differed according to the presence of MSD and age. *Geriatr Gerontol Int* 2024 ••: ••••. [Read more...](#)

10. Sedentary behavior, increasing age, and overweight/obesity increase the presence and intensity of the chronic joint pain in individuals affected by Chikungunya fever

20-07-2024 - National Library of Medicine

CONCLUSION: A high prevalence of chronic, persistent joint pain was observed, with a greater prevalence in the morning. The joints most affected by chronic pain and with the greatest pain intensity were the ankles, and interphalangeal joints of the hands and knees. Sedentary behavior, increasing age, and overweight/obesity were the factors associated with chronic joint pain in individuals ... [Read more...](#)

11. Work-related musculoskeletal complaints of physiotherapists working in intensive care units: Frequency analysis, risk factors, management and prevention strategies

20-07-2024 - National Library of Medicine

CONCLUSION: Musculoskeletal complaints accounted for a high percentage of the analyzed sample, mainly in the lower back. The extent of complaints suggests that strategies should be developed and changes in work dynamics should be carried out. [Read more...](#)

12. Navigating the gut-bone axis: The pivotal role of Coprococcus3 in osteoporosis prevention through Mendelian randomization

19-07-2024 - National Library of Medicine

Osteoporosis (OP) constitutes a notable public health concern that significantly impacts the skeletal health of the global aging population. Its prevalence is steadily escalating, yet the intricacies of its diagnosis and treatment remain challenging. Recent investigations have illuminated a profound interlink between gut microbiota (GM) and bone metabolism, thereby opening new avenues for ... [Read more...](#)

13. Analysis of quadriceps strength and knee pain Among US Adults

19-07-2024 - National Library of Medicine

CONCLUSIONS: The results demonstrated an inverse association between quadriceps strength and the presence of knee pain. The subgroup analysis by sex showed that this inverse relationship was statistically significant in the female but not in the male subgroup. [Read more...](#)

14. Correction: The effectiveness of multidisciplinary interventions based on health belief model on musculoskeletal pain in the elderly living in nursing homes: a study protocol for a randomized controlled trial

18-07-2024 - National Library of Medicine

No abstract [Read more...](#)

15. Ultrasound-guided gluteal nerves electrical stimulation to enhance strength and power in individuals with chronic knee pain: a randomized controlled pilot trial

18-07-2024 - National Library of Medicine

CONCLUSION: This work presents evidence where pNS applied to the gluteal nerves results in an enhanced performance of hip extension at submaximal loads. However, this improvement does not seem to be reflected in short-term changes in the estimation of the 1RM by the force-velocity profile. [Read more...](#)

16. The efficacy of an eight-week exercise program for the management of chronic low back pain in the equestrian population

17-07-2024 - National Library of Medicine

CONCLUSIONS: An eight-week exercise program may be beneficial in improving a sample of equestrians' chronic LBP symptoms. From a practitioner's perspective, the findings provide an indication as to suitable exercises to prescribe to an equestrian to help reduce their LBP. [Read more...](#)

17. Priority interventions for the prevention of falls or fractures in patients with osteoporosis: A network meta-analysis

17-07-2024 - National Library of Medicine

CONCLUSION: Exercise and exercise plus medication are effective in reducing the number of falls in patients with osteoporosis. Although exercise may be the optimal intervention for fracture prevention, the quality of current evidence remains inadequate. Large-scale high-quality randomized controlled trials are necessary to substantiate these findings. [Read more...](#)

18. Substantial discrepancies exist between registered protocol and published manuscript in trials on exercise interventions for chronic low back pain: a meta-research study

17-07-2024 - National Library of Medicine

CONCLUSION: We found substantial outcome discrepancies comparing registered protocols and published manuscripts in RCTs assessing exercise interventions for patients with CLBP, with some impacting the statistical significance of the effects. Readers are encouraged to approach RCTs results in this field with caution. [Read more...](#)

19. Effects of combined anodal transcranial direct current stimulation and motor control exercise on cortical topography and muscle activation in individuals with chronic low back pain: A randomized controlled study

17-07-2024 - National Library of Medicine

BACKGROUND: Aberrant movement in chronic low back pain (CLBP) is associated with a deficit in the lumbar multifidus (LM) and changes in cortical topography. Anodal transcranial direct current stimulation (a-tDCS) can be used to enhance cortical excitability by priming the neuromuscular system for motor control exercise (MCE), thereby enhancing LM activation and movement control. [Read more...](#)

20. Efficacy of lumbar and abdominal muscle rehabilitation training on degree of osteoporosis, pain and anxiety in elderly patients with osteoporotic vertebral compression fracture after PKP and compliance analysis

15-07-2024 - National Library of Medicine

CONCLUSION: Rehabilitation training of lumbar and abdominal muscles can significantly improve the efficacy of PKP, reduce the degree of osteoporosis and improve the prognosis of patients with OVCF. Age, anxiety, pain and postoperative complications were independent risk factors affecting the compliance of psoas and abdominal rehabilitation training in patients with OVCF after PKP. [Read more...](#)

21. Impact of an Integrated Human Performance Support Group: Evaluation of Air Force Special Warfare Candidate Training and Musculoskeletal Injury Outcomes Over Eight Fiscal Years

13-07-2024 - National Library of Medicine

CONCLUSION: The impact of the HPSG on attrition, MSKI incidence, and cost-of-care was not consistent across all training pipelines however, taken together, there were no increases in attrition, and the cost of MSKI management was significantly lower. [Read more...](#)

22. Using Resistance-Band Tests to Evaluate Trunk Muscle Strength in Chronic Low Back Pain: A Test-Retest Reliability Study

13-07-2024 - National Library of Medicine

Exercise is a front-line intervention to increase functional capacity and reduce pain and disability in people with low strength levels or disorders. However, there is a lack of validated field-based tests to check the initial status and, more importantly, to control the process and make tailored adjustments in load, intensity, and recovery. We aimed to determine the test-retest reliability ... [Read more...](#)

23. Blood pressure is associated with knee pain severity in middle-aged and elderly individuals with or at risks for osteoarthritis: data from the Osteoarthritis Initiative

12-07-2024 - National Library of Medicine

CONCLUSIONS: Increased PP is a risk factor for knee pain and mainly affects females, which suggested that controlling PP may be beneficial in preventing or reducing knee pain in females with or at risks for OA. [Read more...](#)

24. Osteoblast-specific down-regulation of NLRP3 inflammasome by aptamer-functionalized liposome nanoparticles improves bone quality in postmenopausal osteoporosis rats

12-07-2024 - National Library of Medicine

Rationale: NLRP3 inflammasome is critical in the development and progression of many metabolic diseases driven by chronic inflammation, but its effect on the pathology of postmenopausal osteoporosis (PMOP) remains poorly understood. Methods: We here firstly examined the levels of NLRP3 inflammasome in PMOP patients by ELISA. Then we investigated the possible mechanisms underlying the effect ... [Read more...](#)

25. Fgf9 regulates bone marrow mesenchymal stem cell fate and bone-fat balance in osteoporosis by PI3K/AKT/Hippo and MEK/ERK signaling

12-07-2024 - National Library of Medicine

Bone-fat balance is crucial to maintain bone homeostasis. As common progenitor cells of osteoblasts and adipocytes, bone marrow mesenchymal stem cells (BMSCs) are delicately balanced for their differentiation commitment. However, the exact mechanisms governing BMSC cell fate are unclear. In this study, we discovered that fibroblast growth factor 9 (Fgf9), a cytokine expressed in the bone ... [Read more...](#)

26. Prognosticating Return-To-Play Time Following a Hamstring Strain Injury Using Early Flexibility Asymmetry and Musculoskeletal Ultrasound Imaging Outcomes: An Exploratory Study Among Canadian University Football Players

12-07-2024 - National Library of Medicine

CONCLUSIONS: Early hamstring flexibility asymmetry following acute HSI, particularly the AKE, along with some POCUS-related measures are valuable in prognosticating late RTP following among Canadian university football athletes. [Read more...](#)

27. Drug utilization pattern of romosozumab and other osteoporosis treatments in Japan, 2019-2021

10-07-2024 - National Library of Medicine

CONCLUSION: Patients initiating romosozumab and TPTD had a high fracture history. Given the dual effects of promoting bone formation and suppressing resorption, improving romosozumab adherence and persistence over time may be important for antiosteoporotic therapy. [Read more...](#)

28. Can fracture liaison services prevent second fractures in patients with osteoporosis?

10-07-2024 - National Library of Medicine

Patients who have had fractures are at increased risk for a second or fragility fracture. A fracture liaison service (FLS), often staffed or led by physician associates/assistants or NPs, may help reduce second fractures and patient mortality. This article reviews FLSs and their effectiveness. [Read more...](#)

29. The Association Between Back Pain, Depression, and Quality of Life Among Older Adults Living with HIV in Rural Areas of the United States

10-07-2024 - National Library of Medicine

CONCLUSIONS: Prevention strategies to reduce back pain and poor HIV outcomes among PLH living in rural areas of the US are needed. [Read more...](#)

30. Severe Mental Illness as a risk factor for recorded diagnosis of osteoporosis and fragility fractures in people aged 50 and above: retrospective cohort study using UK primary care data

10-07-2024 - National Library of Medicine

CONCLUSION: SMI is associated with increased likelihood of fragility fractures and osteoporosis underdiagnosis. Interventions should be considered to mitigate the increased risk of fractures in people with SMI. [Read more...](#)

31. Effects of different parameters of Tai Chi on the intervention of chronic low back pain: A meta-analysis

09-07-2024 - National Library of Medicine

CONCLUSIONS: Tai Chi has an obvious effect of in relieving chronic low back pain. Tai Chi alone and Tai Chi as supplementary therapy have good effects. Tai Chi in water have not been verified. Chen style Tai Chi and Yang's Tai Chi, intervention more than 30 times or less than 30 times had no significant difference in the effect of intervention on CLBP. [Read more...](#)

32. Low back pain classifications and their associations with disability, quality-of-life, and sociodemographic factors: a comprehensive examination using the PainDETECT questionnaire

09-07-2024 - National Library of Medicine

Background: Low back pain (LBP) is a debilitating phenomenon that significantly impacts quality-of-life (QOL). The PainDETECT questionnaire (PD-Q) is a screening tool aimed at distinguishing nociceptive pain (NoP) and neuropathic pain (NeP) classifications. Associations between these classifications and patient-reported outcome measures (PROMs) and sociodemographic parameters are yet to be ... [Read more...](#)

33. The effect of EMS, IFC, and TENS on patient-reported outcome measures for chronic low back pain: a systematic review and meta-analysis

09-07-2024 - National Library of Medicine

CONCLUSION: There is moderate evidence that TENS is similar to all controls for improving pain and disability. There is limited evidence that IFC is superior to active controls for improving pain and disability. There is limited evidence that EMS is superior to passive but not active controls for improving pain, and similar to all controls for improving disability. [Read more...](#)

34. The effects of connective tissue massage and classical massage on pain, lumbar mobility, function, disability, and well-being in chronic low back pain: A three-arm randomized controlled trial

09-07-2024 - National Library of Medicine

CONCLUSIONS: The findings obtained from this study showed that CTMG was superior to CMG and CG in increasing lumbar mobility, and both massage applications were superior to the CG in increasing the well-being. [Read more...](#)

35. The association between osteoporosis and frailty: a cross-sectional observational study and mendelian randomization analysis

09-07-2024 - National Library of Medicine

CONCLUSIONS: Osteoporosis was positively correlated with frailty, and the results remained robust after adjusting for covariates. Further, MR studies have shown a bidirectional causal relationship between osteoporosis and frailty. [Read more...](#)

36. Melatonin prevents cadmium-induced osteoporosis by affecting the osteoblast and osteoclast differentiation and pyroptosis in duck

09-07-2024 - National Library of Medicine

Cadmium (Cd), is a highly toxic environmental pollutant, which seriously threatens the health of poultry and humans. The occurrence of osteoporosis is the main manifestation of cadmium toxicity. Pyroptosis plays an important role in the development of osteoporosis. Melatonin has

been shown to affect preserving bone health. However, the underlying mechanism has not been elucidated. [Read more...](#)

37. Clinical Outcomes of the Transforaminal Lumbar Interbody Fusion Technique Among Patients With Low Back Pain Showing Type 1 Modic Changes on MRI

08-07-2024 - National Library of Medicine

Introduction The unilateral transforaminal lumbar interbody fusion (TLIF) signifies a different surgical method, circumventing both the anterior method and the method via the spinal canal. Due to the shortage of literature available for clinical outcomes and consequences post-TLIF, we undertook the current study to assess the TLIF technique's clinical outcomes among patients with low back ... [Read more...](#)

38. Stretching exercises for growing children: evaluation of obesity, flexibility, pain and injury of musculoskeletal organs before and one year later

08-07-2024 - National Library of Medicine

Objective: Rapid bone development in growing children causes excessive tension in the lower extremities' muscles and tendons, leading to reduced flexibility and increased musculoskeletal disorder risk. Further, lack of exercise causes obesity. Therefore, we created a stretching exercise protocol to prevent musculoskeletal disorders in elementary school (middle and upper grades) children ... [Read more...](#)

39. Primary care seeking among adults with chronic neck and low back pain in Norway: A prospective study from the HUNT study linked to Norwegian primary healthcare registry

06-07-2024 - National Library of Medicine

CONCLUSIONS: Around 40% of people seek primary care for chronic neck and low back pain, and frequent care seeking may continue for years. Future studies should investigate strategies to reduce recurrent primary care visits, especially seeking physical therapist care, and promote self-management of chronic pain. [Read more...](#)

40. Association of geriatric nutritional risk index with bone mineral density and osteoporosis in postmenopausal elderly women with T2DM

05-07-2024 - National Library of Medicine

CONCLUSIONS: In postmenopausal elderly women with T2DM, GNRI was independently and positively correlated with BMD levels. GNRI may be a predictor development of OP. [Read more...](#)

41. Evaluating the categorisation of interventions in individual working practice aimed at preventing work-related musculoskeletal disorders: An international experts consultation

05-07-2024 - National Library of Medicine

In a previous scoping review, eight categories of interventions in individual work practice were defined. The aim of the present study is to evaluate the relevance and completeness of these eight categories and to increase the clarity of the nomenclature and definitions of each category. An international expert consultation has been carried out for this purpose. [Read more...](#)

42. Barriers and facilitators to the delivery of a biopsychosocial education and exercise programme for patients with chronic low back pain in Ghana. A qualitative study

04-07-2024 - National Library of Medicine

CONCLUSION: The themes that emerged from this study demonstrated many positive facilitators based on participants' improved understanding of LBP and the clarity and purpose of the

biopsychosocial intervention. The results therefore demonstrate a potential to deliver the biopsychosocial intervention in a Ghanaian context. [Read more...](#)

43. Is It Time to Step outside the Laboratory? The Feasibility of Field-Based Examination of Exercise-Induced Hypoalgesia in Elite Badminton Athletes with and without Knee Pain

04-07-2024 - National Library of Medicine

CONCLUSION: Simple, field-based tests of endogenous analgesia are feasible and could provide new opportunities to evaluate an athlete's risk of persistent pain. [Read more...](#)

44. Impact of direct access on the quality of primary care musculoskeletal physiotherapy: a scoping review from a patient, provider, and societal perspective

04-07-2024 - National Library of Medicine

CONCLUSIONS: Emerging evidence suggests that direct access physiotherapy could provide at least equal quality of care for patients and better opportunities for providers and the society on selected outcomes. [Read more...](#)

45. Prevalence of osteoporosis and associated factors among people aged 50 years and older in the Madhesh province of Nepal: a community-based cross-sectional study

04-07-2024 - National Library of Medicine

CONCLUSION: This study revealed a high prevalence of osteoporosis among people aged 50 years and older due to the combined effect of being underweight and having inadequate calcium intake. Nutritional counselling services encourage people to consume sufficient calcium-rich food and adopt an appropriate lifestyle behaviours to maintain healthy body weight so that osteoporosis and osteoporotic ... [Read more...](#)

46. Probiotics: a promising intervention for osteoporosis prevention and management

04-07-2024 - National Library of Medicine

Osteoporosis (OP) is a systemic skeletal disease that is characterized by low bone mass and increased fracture risk. This article explores the potential of probiotics as an adjunctive approach for the prevention and management of OP. It has been well established that the gut microbiota (GM), a complex community of microbes, plays an important role in bone health. [Read more...](#)

47. Neuroprotective macromolecular methylprednisolone prodrug nanomedicine prevents glucocorticoid-induced muscle atrophy and osteoporosis in a rat model of spinal cord injury

03-07-2024 - National Library of Medicine

To address the adverse side effects associated with systemic high-dose methylprednisolone (MP) therapy for acute spinal cord injury (SCI), we have developed a N-2-hydroxypropyl methacrylamide copolymer-based MP prodrug nanomedicine (Nano-MP). Intravenous Nano-MP selectively targeted to the inflamed SCI lesion and significantly improved neuroprotection and functional recovery after acute SCI. [Read more...](#)

48. Vertebral bone quality score was associated with paraspinal muscles fat infiltration, but not modic classification in patients with chronic low back pain: a prospective cross-sectional study

03-07-2024 - National Library of Medicine

CONCLUSIONS: PDFF of paraspinal muscles was not associated with Modic classification. In addition to age and gender, PDFF of paraspinal muscles is also affected by VBQ. Age and BMI are considered risk factors for the MCs in CLBP patients. [Read more...](#)

49. Aerobic high-intensity interval training and maximal strength training in patients with unspecific musculoskeletal disorders improve VO(2peak) and maximal strength more than moderate training

03-07-2024 - National Library of Medicine

Improving peak oxygen uptake ($\dot{V}O_{2peak}$) and maximal strength are key objectives of rehabilitation for patients with unspecific musculoskeletal disorders (MSDs). Although high-intensity training yield superior outcomes for these factors, patients with MSDs may not tolerate high-intensity due to pain and fear. Therefore, we examined the effect and feasibility of incorporating aerobic ... [Read more...](#)

50. Promoting musculoskeletal health and preventing ill health

03-07-2024 - National Library of Medicine

Musculoskeletal conditions are highly prevalent among older adults and can have a significant impact on their quality of life. Musculoskeletal health is an important component of maintaining well-being and independence. A proactive approach is required, with nurses implementing strategies such as healthy diets and physical exercise that will support optimal health. [Read more...](#)

51. Accessing care within team-based models of primary care for the management of chronic low back pain in Ontario, Canada: a qualitative study of patient experiences

01-07-2024 - National Library of Medicine

CONCLUSIONS: Adults living with chronic LBP described overall positive experiences and specific expectations when accessing care within team-based models of primary care, whereby they experienced an ease of accessing interprofessional care with the hope of alleviating pain and its impacts. Results may be transferable to other chronic pain conditions and health system contexts. [Read more...](#)

52. Outcomes After a Statewide Policy to Improve Evidence-Based Treatment of Back Pain Among Medicaid Enrollees in Oregon

01-07-2024 - National Library of Medicine

CONCLUSIONS: A state Medicaid policy emphasizing evidence-based back pain management was associated with decreases in opioid prescribing, spinal surgeries, and opioid use disorder trends, but also short-term increases in mental health encounters and an increase in non-opioid substance use disorder trends. Such policies may help reinforce evidence-based care, but must be designed with ... [Read more...](#)

53. The Impact of Occupational Physical Demands on Musculoskeletal Health and Employment Outcomes in Pregnancy: A Call for Holistic Supportive Measures

01-07-2024 - National Library of Medicine

No abstract [Read more...](#)

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Living well with MSK conditions

Living well with MSK conditions

1. Relationship Between Chronic Obstructive Pulmonary Disease and Osteoporosis: A Scoping Review

31-07-2024 - National Library of Medicine

CONCLUSION: There are well-established features linking COPD and osteoporosis, including shared RFs, such as smoking, elderly, physical inactivity, or low BMI. Others deserve clarification, including the impact of COPD severity, or the use of inhaled corticosteroids on the incidence of osteoporosis and fractures, as well as the value of performing routine imaging tests, ... [Read more...](#)

2. Nurse-led web-based self-management program to improve patient activation and health outcomes in patients with chronic low back pain: an acceptability and feasibility pilot study

31-07-2024 - National Library of Medicine

CONCLUSIONS: A web-based SMP is acceptable and feasible in this population. Participants who received augmentation with HBCC had persistent improvements in health outcomes at 26 weeks. [Read more...](#)

3. RESPONSE TO THE LETTER TO THE EDITOR REGARDING: Alam MF, Ansari S, Zaki S, Sharma S, Nuhmani S, Alnagmoosh A, Alsubaiei ME 2024 Effects of physical interventions on pain and disability in chronic low back pain with pronated feet: a systematic review and meta-analysis. Physiotherapy Theory and Practice 3: 1-15

31-07-2024 - National Library of Medicine

No abstract [Read more...](#)

4. Osteoporosis as a Potential Modifiable Risk Factor for Dementia in Thailand: A Cross-Sectional Analysis

31-07-2024 - National Library of Medicine

CONCLUSION: The study findings suggest an elevated risk of dementia in patients with osteoporosis and contribute substantially to our understanding of the link between osteoporosis and dementia in the Thai population. [Read more...](#)

5. Short-term effect of acupuncture dry needle in treatment of chronic mechanical low back pain: a randomized controlled clinical trial

31-07-2024 - National Library of Medicine

CONCLUSIONS: Based on the study results, dry needle acupuncture may be a beneficial modality in treating chronic mechanical low back pain by relieving pain intensity, improving functional debility, and improving ROM. [Read more...](#)

6. Letter to the Editor: Effects of physical interventions on pain and disability in chronic low back pain with pronated feet

31-07-2024 - National Library of Medicine

No abstract [Read more...](#)

7. Correction to: Artificial intelligence-enhanced opportunistic screening of osteoporosis in CT scan: a scoping Review

31-07-2024 - National Library of Medicine

No abstract [Read more...](#)

8. Impact of beef, mutton, fruits, and green tea consumption on Osteoporosis risk: A cross-sectional study in Northwest China

30-07-2024 - National Library of Medicine

No abstract [Read more...](#)

9. Risk factors of musculoskeletal symptoms among industrial workers in Peninsular Malaysia

30-07-2024 - National Library of Medicine

Objectives. The prevalence rate of work-related musculoskeletal disorders (WMSDs) globally is notably high. There are a limited number of studies investigating WMSDs and their associated risk factors. However, there are currently no data available for WMSDs among industrial workers in Peninsular Malaysia. This study aimed to identify the prevalence of WMSDs and associated risk factors among ... [Read more...](#)

10. Relationship between outcomes and processes in patients with chronic low back pain plus depressive symptoms: idiographic analyses within a randomized controlled trial

30-07-2024 - National Library of Medicine

CONCLUSIONS: These findings suggest the potential utility of personalizing psychological interventions according to the therapeutic needs of these patients. [Read more...](#)

11. PT-IN-MIND: study protocol for a multisite randomised feasibility trial investigating physical therapy with integrated mindfulness (PT-IN-MIND) for patients with chronic musculoskeletal pain and long-term opioid treatment who attend outpatient physical therapy

30-07-2024 - National Library of Medicine

INTRODUCTION: Many individuals receiving outpatient physical therapy have musculoskeletal pain and up to one-third use prescription opioids. The impact of physical therapist-led mindfulness-based interventions integrated with evidence-based physical therapy (I-EPT) to manage patients with chronic musculoskeletal pain and long-term opioid treatment has not been elucidated. [Read more...](#)

12. Traditional versus cooled-radiofrequency neurotomy for the treatment of chronic lumbar facet (zygapophyseal) joint pain

30-07-2024 - National Library of Medicine

Aim: Traditional radiofrequency ablation (TRFA) effectively treats facet joint-related pain, while water-cooled radiofrequency ablation (CRFA) may offer benefits like larger lesions and easier nerve access. Our goal is to assess the effectiveness of TRFA and CRFA for facet joint-related pain. **Materials & methods:** This retrospective study included an evaluation of 346 RFA interventions ... [Read more...](#)

13. Correlation of MRI- evaluated degenerative disc disease with positivity on Single-Photon Emission Computed Tomography Imaging in patients with chronic low back pain

29-07-2024 - National Library of Medicine

CONCLUSION: This comprehensive study, the largest of its kind, establishes a significant link between SPECT/CT positivity and advanced lumbar degenerative changes. Higher Pfirrmann grades and increased Rajasekaran endplate damage demonstrated substantial correlations with SPECT/CT positivity. Notably, Modic changes did not exhibit such association. Our findings underscore the potential of ... [Read more...](#)

14. Resting-State Functional Connectivity of the Cerebellum in Patients with Chronic Low Back Pain

29-07-2024 - National Library of Medicine

CONCLUSION: The cerebellum had mechanistic implications in pain-related changes, which are involved in motor control, cognition, and emotion processing. These findings provide a novel perspective on the role of functional subregions in cLBP, which add to the growing body of

evidence that the cerebellum can be a potential target for noninvasive brain stimulation for chronic pain treatment. [Read more...](#)

15. Motivation and Barriers for Seeking Osteoporosis Screening Services Among the Elderly Population in Al-Madina Munawara

29-07-2024 - National Library of Medicine

Background Osteoporosis is a chronic bone disease associated with a reduction in bone mass and an increased risk of fractures. The prevalence of osteoporosis is rising globally, including in Saudi Arabia, where there is a lack of information regarding the uptake of osteoporosis screening services. This study aims to examine self-efficacy and barriers toward osteoporosis screening in older ... [Read more...](#)

16. Mapping the Cortical Representation of Paraspinal Muscles Using Transcranial Magnetic Stimulation Optimized in People With Chronic Back Pain

29-07-2024 - National Library of Medicine

CONCLUSION: The facilitation of the CSE to paraspinal muscles makes TMS mapping more practical and tolerable in people with CLBP, lowering the risk of seizure and discomfort associated with high-intensity TMS pulses. [Read more...](#)

17. Chronic Musculoskeletal Pain and Central Sensitization-Related Symptoms in Chilean Victims of Political Violence During the 1973 to 1990 Dictatorship

28-07-2024 - National Library of Medicine

People who suffer political violence (PV) are at risk of developing mental illness, chronic noncommunicable diseases, chronic pain, and decreased life expectancy. However, these indicators have been studied primarily in war veterans and refugees. The objective of this study was to estimate the prevalence of chronic musculoskeletal pain (CMP) and central sensitization-related symptoms (CSRS) ... [Read more...](#)

18. A mixed methods approach to describe the efficacy of lift assist device use to reduce low back musculoskeletal disorder risk factors during three common patient extrication scenarios

27-07-2024 - National Library of Medicine

This mixed-method study evaluated the efficacy of lift assist device use (Binder®, Eagle®, Maxi Air®) relative to manual lifting/care-as-usual in reducing low back muscle activity and perceived exertion during simulated patient extrication tasks. User feedback was recorded to identify factors that might influence use. Twenty paramedics performed a floor to stretcher lift, lateral transfer, ... [Read more...](#)

19. Antioxidant, Anti-Inflammatory, Anti-Diabetic, and Pro-Osteogenic Activities of Polyphenols for the Treatment of Two Different Chronic Diseases: Type 2 Diabetes Mellitus and Osteoporosis

27-07-2024 - National Library of Medicine

Polyphenols are natural bioactives occurring in medicinal and aromatic plants and food and beverages of plant origin. Compared with conventional therapies, plant-derived phytochemicals are more affordable and accessible and have no toxic side effects. Thus, pharmaceutical research is increasingly inclined to discover and study new and innovative natural molecules for the treatment of several ... [Read more...](#)

20. Chronic Low Back Pain: History, Symptoms, Pain Mechanisms, and Treatment

27-07-2024 - National Library of Medicine

Chronic low back pain (cLBP) is the most frequently reported cause of years lived with disability. Identifying the anatomical structures or dysfunction contributing to patients' symptoms is critical to guiding treatment. The etiology of back pain and differential diagnosis is often broad, ranging from non-degenerative cLBP (trauma, tumor, inflammation, infection, etc. [Read more...](#)

21. Implementation of back to living well, a community-based program for the tertiary prevention of low back pain: a study protocol

27-07-2024 - National Library of Medicine

BACKGROUND: The current literature supports the effectiveness of exercise, education, and self-management interventions for the long-term management of persistent low back pain. However, there is significant uncertainty about the implementation of interventions related to barriers, facilitators, and patient's preferences. This study will evaluate the Back to Living Well program implementation ... [Read more...](#)

22. Effectiveness and cost-effectiveness of radiofrequency denervation versus placebo for chronic and moderate to severe low back pain: study protocol for the RADICAL randomised controlled trial

27-07-2024 - National Library of Medicine

INTRODUCTION: Low back pain (LBP) is the leading global cause of disability. Patients with moderate to severe LBP who respond positively to a diagnostic medial nerve branch block can be offered radiofrequency denervation (RFD). However, high-quality evidence on the effectiveness of RFD is lacking. [Read more...](#)

23. Quantum Medicine and Irritable Bowel Syndrome-Associated Chronic Low-Back Pain: A Pilot Observational Study on the Clinical and Bio-Psycho-Social Effects of Bioresonance Therapy

27-07-2024 - National Library of Medicine

Background and Objectives: Irritable bowel syndrome (IBS) is an invasive and potentially disabling syndrome characterized by a multitude of symptoms capable of reducing the quality of life of patients. Among the most disabling symptoms of IBS is certainly physical pain, which manifests itself mainly at the abdominal level but can also appear in other areas of the body, ... [Read more...](#)

24. Risk Factors Associated with Musculoskeletal Injuries within the Crew of the Leopard 2 A6 Main Battle Tank Using Inertial Movement Unit Sensors: A Pilot Study

27-07-2024 - National Library of Medicine

This study aims to assess the musculoskeletal risk of military personnel on a Leopard 2 A6 main battle tank crew and to identify associated factors for future prevention and mitigation strategies. A sample of 57 Portuguese military personnel, who are or were part of the Leopard 2 A6 main battle tank crew, answered a questionnaire on their perception of task performance, ... [Read more...](#)

25. Investigation of prevalence and risk factors of musculoskeletal disorders among tea harvesting farmers - A systematic review

26-07-2024 - National Library of Medicine

CONCLUSIONS: Ergonomic interventions such as redesigning tea harvesting tools, enhancing tea plants and workspaces, teaching ergonomic principles of body posture and manual movement, and organizing work with job rotation and adequate rest are recommended to alleviate musculoskeletal disorder symptoms. [Read more...](#)

26. A critical appraisal of "effects of exercise therapy on disability, mobility, and quality of life in the elderly with chronic low back pain: a systematic review and meta-analysis of randomised controlled trials"

26-07-2024 - National Library of Medicine

No abstract [Read more...](#)

27. Effects of a Mat Pilates Exercise Program Associated with Photobiomodulation Therapy in Patients with Chronic Nonspecific Low Back Pain: A Randomized, Double-Blind, Sham-Controlled Trial

26-07-2024 - National Library of Medicine

CONCLUSION: The mat Pilates program reduced peak pain intensity, perceived disability, and pain catastrophizing in adults with CNLBP, but PBMT had no additional effect on these variables. Mat Pilates alone or combined with PBMT was not able to improve postural balance. [Read more...](#)

28. Analysis of Intestinal Bacterial Microbiota in Individuals with and without Chronic Low Back Pain

26-07-2024 - National Library of Medicine

Low back pain is a health problem that represents the greatest cause of years lived with disability. This research seeks to evaluate the bacterial composition of the intestinal microbiota of two similar groups: one with chronic low back pain (PG) and the control group (CG). Clinical data from 73 participants and bacterial genome sequencing data from stool samples were analyzed. [Read more...](#)

29. Assessing fall risk in osteoporosis patients: a comparative study of age-matched fallers and nonfallers

25-07-2024 - National Library of Medicine

This study aimed to investigate sway parameters and physical activity level of the age/gender-matched older adults with osteoporosis faller and nonfaller patients. By examining these factors, our objective was to understand how these faller and nonfaller groups with osteoporosis differed particularly in terms of balance capabilities and their impact on physical activity levels. [Read more...](#)

30. The effects of an 8-week dynamic neuromuscular stabilization exercise on pain, functional disability, and quality of life in individuals with non-specific chronic low back pain: a randomized clinical trial with a two-month follow-up study

25-07-2024 - National Library of Medicine

CONCLUSION: An 8-week period of DNS exercises can improve pain, functional disability, and quality of life in individuals with NSCLBP. However, a 2-month period of detraining can reduce the positive outcomes of these exercises. [Read more...](#)

31. Setting the stage for pain relief: how treatment setting impacts interdisciplinary multimodal pain treatment for patients with chronic back pain

25-07-2024 - National Library of Medicine

While interdisciplinary multimodal pain treatment (IMPT) is an effective treatment option for chronic low back pain, it is usually accomplished as an inpatient treatment incurring substantial healthcare costs. Day hospital IMPT could be a resource-saving alternative approach, but whether treatment setting is associated with differences in treatment outcomes has not yet been studied. [Read more...](#)

32. Effectiveness of Hybrid Form Impulse Therapy (HFIT) Compared to Traditional Transcutaneous Electronic Nerve Stimulation (TENS) in Patients with Chronic Low Back and Knee Pain: A Randomized Controlled Trial

25-07-2024 - National Library of Medicine

CONCLUSION: More participants of a digital MSK program who were randomized to the HFIT group experienced meaningful pain improvement at 4 weeks than participants who used TENS and usual care. HFIT can be an effective, non-pharmaceutical solution for relief as a complement to first-line treatments for patients with chronic back and knee pain. [Read more...](#)

33. Effect of exercise and manual therapy or kinesiotaping on sEMG and pain perception in chronic low back pain: a randomized trial

25-07-2024 - National Library of Medicine

The importance of incorporating lumbo-pelvic stability core and controlling motor exercises in patients with chronic low back pain (CLBP) reinforces the use of strategies to improve biopsychosocial beliefs by reducing biomedical postulations. However, clinical practice guidelines recommend multimodal approaches incorporating exercise and manual therapy (MT), and instead reject the application ... [Read more...](#)

34. Biomedical Dogmas Still Influence the Delivery of Exercise Therapy in Chronic Low Back Pain Management: Mixed-Methods Study

25-07-2024 - National Library of Medicine

CONCLUSION: In this sample, patients' understanding of NSCLBP was still dominated by biomedical dogmas and perspectives. Inpatient rehabilitation predominantly addressed expectations towards the motivational phase of exercise-related health behaviour change. [Read more...](#)

35. Imaging of glial cell changes in individuals with chronic low back pain: A commentary on Shraim et al

24-07-2024 - National Library of Medicine

No abstract [Read more...](#)

36. Clinical relevance of combined treatment with exercise in patients with chronic low back pain: a randomized controlled trial

24-07-2024 - National Library of Medicine

Low back pain is a widespread public health concern owing to its high prevalence rates according to the Global Burden of Diseases. This study aimed to investigate the effect of exercise alone or in combination with manual therapy and kinesiotherapy on pain sensitivity, disability, kinesiophobia, self-efficacy, and catastrophizing in patients with chronic low back pain (CLBP). [Read more...](#)

37. Inhibiting the JNK Signaling Pathway Attenuates Hypersensitivity and Anxiety-Like Behavior in a Rat Model of Non-specific Chronic Low Back Pain

24-07-2024 - National Library of Medicine

Low back pain (LBP) has become a leading cause of disability worldwide. Astrocyte activation in the spinal cord plays an important role in the maintenance of latent sensitization of dorsal horn neurons in LBP. However, the role of spinal c-Jun N-terminal kinase (JNK) in astrocytes in modulating pain behavior of LBP model rats and its neurobiological mechanism have not been elucidated. [Read more...](#)

38. Measurement Properties of Two Questionnaires Assessing Fear-Avoidance in Patients With Chronic Low Back Pain

22-07-2024 - National Library of Medicine

The Fear-Avoidance Components Scale (FACS) and the Fear of Daily Activities Questionnaire (FDAQ) assess fear-avoidance model components. However, the questionnaires are not available in Brazilian Portuguese. This study aimed to translate the original English FACS and FDAQ into

Brazilian (Br) Portuguese and assess their measurement properties in patients with Chronic Low Back Pain (CLBP). [Read more...](#)

39. Associations of dietary inflammatory index scores and serum inflammatory factors with the risk of osteoporosis: a cross-sectional study from Xinjiang, China

22-07-2024 - National Library of Medicine

CONCLUSIONS: The risk of osteoporosis can be reduced by increasing the consumption of an appropriate anti-inflammatory diet. [Read more...](#)

40. Geriatric nutritional risk index as a predictor for surgical site infection in malignant musculoskeletal tumours of the trunk

22-07-2024 - National Library of Medicine

CONCLUSION: Tumours arising caudal to Jacoby line, soft tissue reconstruction, and lower GNRI were risk factors for SSI. Preoperative and postoperative nutritional interventions should be considered to improve GNRI. [Read more...](#)

41. Enhancing osteoporosis management through risk assessment tools

22-07-2024 - National Library of Medicine

No abstract [Read more...](#)

42. Prevalence and risk factors of osteopenia and osteoporosis among postmenopausal women: A cross-sectional study from Jordan

22-07-2024 - National Library of Medicine

CONCLUSIONS: Postmenopausal women from Jordan had high prevalence of osteoporosis and osteopenia. It is therefore necessary to target risk factors leading to osteoporosis and to improve patients' lifestyles through patient education. Healthcare systems should consider early screening approaches for osteoporosis at the age of menopause and thereafter. Supplements of calcium and vitamin D may ... [Read more...](#)

43. Who are the people with chronic severe back pain not receiving pain treatment?

21-07-2024 - National Library of Medicine

There are substantial access to care barriers for persons with chronic pain. Little is known about persons who do not receive treatment for chronic severe back pain as most studies rely on clinical samples. We sought to explore demographic, socioeconomic and clinical characteristics of U.S. adults with chronic severe back pain who had not received pain care in the preceding 3 months. [Read more...](#)

44. Identical movement control exercises with and without synchronized breathing for chronic non-specific low back pain:A randomized pilot trial

20-07-2024 - National Library of Medicine

CONCLUSION: The synchronized breathing with movement control exercises protocol was feasible and may be more beneficial for improving multifactorial outcomes compared to identical exercises alone. Results suggested progression to a full-scale trial. [Read more...](#)

45. Comparative analysis of machine learning models for efficient low back pain prediction using demographic and lifestyle factors

20-07-2024 - National Library of Medicine

CONCLUSION: In this study, an efficient LBP prediction model was developed using easily accessible variables. Using this model, it may be helpful to identify the risk of LBP in advance or establish prevention strategies in subjects who have difficulty accessing medical facilities. [Read more...](#)

46. Effects of cervicothoracic mobility programme on pain, range of motion and function in patients with chronic back pain

19-07-2024 - National Library of Medicine

CONCLUSION: Cervicothoracic mobilisation was more effective in improving pain, functionality and range of motion in patients with chronic low back pain. [Read more...](#)

47. Central sensitization-related symptoms and their relationship to disability in prevalent chronic musculoskeletal pain: A cross-sectional study

19-07-2024 - National Library of Medicine

CONCLUSION: CS-related symptoms, which are related to increased pain and disability, should be closely monitored in patients with chronic MSK pain. [Read more...](#)

48. Targeted vibratory therapy as a treatment for proprioceptive dysfunction: Clinical trial in older patients with chronic low back pain

19-07-2024 - National Library of Medicine

CONCLUSIONS: TVT demonstrated efficacy in improving proprioception and alleviating LBP in older patients with impaired proprioceptive function without affecting non-targeted proprioceptors. [Read more...](#)

49. Anabolic treatment for osteoporosis and fragility fracture risk: one year in review 2024

19-07-2024 - National Library of Medicine

Osteoporosis is a skeletal disease characterised by reduced bone mass and deterioration of bone microarchitecture, underlying a higher risk of fragility fractures. Several options are available for its treatment, including both anti-resorptive and anabolic agents. The present review discusses and summarises the most recent literature on anabolic treatment, with a focus on abaloparatide, ... [Read more...](#)

50. Exploring the Significance of Abdominal Drawing-in and Segmental Stabilisation Training (SST) for Low Back Pain Management

19-07-2024 - National Library of Medicine

Segmental Stabilisation Training (SST) a programme initially conceived by Carolyn Richardson and her team, serves as a specialised approach tailored to alleviate mechanical low back pain. Built upon decades of rigorous research, this exercise model rests upon the foundational principles of core stability. SST is unique due to its singular focus on addressing the root cause of low back pain, ... [Read more...](#)

51. Correction: Risk factors for incident vertebral fractures in osteoporosis pharmacotherapy: a 2-year, prospective, observational study

18-07-2024 - National Library of Medicine

No abstract [Read more...](#)

52. Corrigendum to "Relationship Between Serum 25-Hydroxyvitamin D and Bone Mineral Density, Fracture Risk, and Bone Metabolism in Adults With Osteoporosis/Fractures" [Endocrine Practice 30/7 (2024) 616-623]

18-07-2024 - National Library of Medicine

No abstract [Read more...](#)

53. Sugar-sweetened beverage intake and chronic low back pain

18-07-2024 - National Library of Medicine

CONCLUSION: Reduction of SSB consumption might contribute to the prevention of CLBP for individuals aged 20 to 69 years. Moreover, current smokers or individuals with hypertension

should be more vigilant about the SSB intake-associated CLBP risk. Nevertheless, caution should be exercised when interpreting the results of this study, as further research is necessary to explore the association ... [Read more...](#)

54. Opportunistic use of chest low-dose computed tomography (LDCT) imaging for low bone mineral density and osteoporosis screening: cutoff thresholds for the attenuation values of the lower thoracic and upper lumbar vertebrae

18-07-2024 - National Library of Medicine

CONCLUSIONS: We have conducted a study on low BMD and osteoporosis screening using mean attenuation values of lower thoracic and upper lumbar vertebrae. Assessment of mean attenuation values of T11-T12 and L1-L2 can be used interchangeably for low BMD and osteoporosis screening using chest LDCT, and their cutoff thresholds were established. [Read more...](#)

55. "What helps your back pain?" A qualitative analysis of pain management strategies in opioid-treated adults with chronic low back pain

17-07-2024 - National Library of Medicine

CONCLUSIONS: Over time, the reports of medication and active pain management strategies, eg, physical activity, remained stable, while the reports of some passive pain management strategies, eg, position and thermal, declined over time. Increased use of psychological strategies implies that study interventions were incorporated as useful pain self-management strategies. [Read more...](#)

56. The Effectiveness of Auricular Acupressure on Chronic Musculoskeletal Pain: A Systematic Review and Meta-Analysis of Randomized Controlled Trials

17-07-2024 - National Library of Medicine

Objectives: To assess the effectiveness of auricular acupressure (AA) in managing pain and disability in individuals with chronic musculoskeletal pain. Materials and Methods: A systematic search on six electronic databases was performed from their inception to May 7, 2023, to identify relevant randomized controlled trials (RCTs). Two independent reviewers screened the abstracts and full ... [Read more...](#)

57. Short- and medium-term effects of a single session of pain neuroscience education on pain and psychological factors in patients with chronic low back pain. A single-blind randomized clinical trial

17-07-2024 - National Library of Medicine

CONCLUSIONS: Adding a single PNE session in the back school program did not reduce pain but improved psychological factors as central sensitization and pain catastrophizing at medium-term. This study highlights the potential of PNE to optimize treatment strategies for CLBP, especially in public health centres where time resources are scarce. [Read more...](#)

58. Blackcurrants shape gut microbiota profile and reduce risk of postmenopausal osteoporosis via the gut-bone axis: Evidence from a pilot randomized controlled trial

17-07-2024 - National Library of Medicine

This study aimed to investigate the effects of blackcurrant (BC) on gut microbiota abundance and composition, inflammatory and immune responses, and their relationship with bone mass changes. The effects of BC on bone mineral density (BMD), gut microbiota, and blood inflammatory and immune biomarkers were evaluated using DXA, stool and fasting blood collected from a pilot 3-arm, randomized, ... [Read more...](#)

59. Real-world effectiveness of osteoporosis screening in older Swedish women (SUPERB)

17-07-2024 - National Library of Medicine

CONCLUSION: Screening older women for osteoporosis and referring those with osteoporosis diagnosis was associated with substantially increased treatment rates and reduced risk of any fracture, MOF, and hip fracture, compared to non-osteoporotic women. [Read more...](#)

60. Recovering work productivity in a population with chronic musculoskeletal pain: unveiling the value and cost-savings of a digital care program

17-07-2024 - National Library of Medicine

CONCLUSIONS: This study underlines the burden of MSK-related productivity loss on employers' financial balance, illustrating the importance of a DCP to assist patients to recover quality of life and succeed professionally. [Read more...](#)

61. Intradiscal Autologous Biologics for the Treatment of Chronic Discogenic Low Back Pain

17-07-2024 - National Library of Medicine

PURPOSE OF REVIEW: The purpose of this narrative review is to evaluate the efficacy of the most commonly studied intradiscal biologics used for the treatment and alleviation of chronic intractable discogenic low back pain. Additionally, it explores the therapeutic potential and durability of these novel treatment options. RECENT FINDINGS: Recently published literature highlights the ... [Read more...](#)

62. Emotional contagion and cognitive empathy regulate the effect of depressive symptoms on empathy-related brain functional connectivity in patients with chronic back pain

16-07-2024 - National Library of Medicine

CONCLUSION: Depressive symptoms were strongly associated with the emotional contagion in patients with chronic back pain. Furthermore, the emotional contagion and the cognitive empathy regulated the effect of the comorbid depressive symptoms on the MCC-ITG connectivity in patients with chronic back pain. [Read more...](#)

63. Serious treatment-emergent adverse events in chronic low back pain patients treated with buprenorphine or oral opioids: a retrospective commercial claims analysis

16-07-2024 - National Library of Medicine

Aim: Explore the safety of Belbuca® (buprenorphine buccal film), buprenorphine transdermal patches and oral opioids for chronic low back pain (cLBP) treatment. Methods: The retrospective analysis of the MarketScan Commercial database (2018-2021) included treatment-naive cLBP adults. The first date of buprenorphine (Belbuca and transdermal patch) or opioid prescription was index date. [Read more...](#)

64. Holistic Care for People Living with Chronic Musculoskeletal Pain: The Relevance and Importance of Sexual Function

16-07-2024 - National Library of Medicine

People living with chronic primary or secondary musculoskeletal pain conditions such as low back pain, fibromyalgia, and inflammatory arthritis typically experience wide-ranging impacts on their physical function, activity participation, and psychosocial wellbeing. These can extend to negative impacts on a person's sexual function and their intimate relationships. [Read more...](#)

65. Movement Clearing Screens for Service Member Musculoskeletal Injury Risk Identification

15-07-2024 - National Library of Medicine

CONCLUSIONS: Self-report movement clearing screens in combination with a Traffic Light Model provide clinician/non-clinician-friendly, expedient means to identify Service members at MSKI risk. [Read more...](#)

66. Association of MRI findings with paraspinal muscles fat infiltration at lower lumbar levels in patients with chronic low back pain: a multicenter prospective study

15-07-2024 - National Library of Medicine

CONCLUSION: The degree of paraspinal muscles fat infiltration in CLBP patients is related to the cumulative or synergistic effects of multiple factors, especially at the L4/L5 level. Although age and BMI are important factors affecting the degree of paraspinal muscles PDFF in CLBP patients, their diagnostic efficacy is moderate. [Read more...](#)

67. Precision Rehabilitation After Neurostimulation Implantation for Multifidus Dysfunction in Nociceptive Mechanical Chronic Low Back Pain

15-07-2024 - National Library of Medicine

Chronic low back pain (CLBP) is a debilitating, painful, and costly condition. Implantable neuromuscular electrical stimulation targeting the multifidus musculature is growing as a non-pharmacologic option for patients with recalcitrant nociceptive mechanical CLBP who have failed conservative treatments (including medications and physical therapy) and for whom surgery is not indicated. [Read more...](#)

68. Navigating complexities: clinicians' experiences and systemic challenges in the implementation of evidence-based practice for chronic low back pain - a qualitative study

13-07-2024 - National Library of Medicine

CONCLUSION: A variety of factors impact exercise-based clinicians' implementation of EBP. The interaction between these factors greatly influences clinicians' ability to engage in and implement EBP in clinical practice. [Read more...](#)

69. Effectiveness of Virtual Reality on Rehabilitation of Chronic Non-Specific Low Back Pain Patients

13-07-2024 - National Library of Medicine

CONCLUSIONS: Applying postural correction using TBed VR gaming in addition to heat and stretching may improve pain, range of motion, function, and balance in patients with chronic low back pain. [Read more...](#)

70. Prediction of Back Disability Using Clinical, Functional, and Biomechanical Variables in Adults with Chronic Nonspecific Low Back Pain

13-07-2024 - National Library of Medicine

Background: Researchers are focusing on understanding the etiology and predisposing factors of chronic nonspecific low back pain (CNSLBP), a costly prevalent and disabling disorder. Related clinical, functional, and biomechanical variables are often studied, but in isolation. We aimed to identify key factors for managing CNSLBP by examining the relationship between back disability and related ... [Read more...](#)

71. Long-term trajectories of low back pain in older men: A prospective cohort study with 10-year analysis of the MrOS Study

12-07-2024 - National Library of Medicine

While low back pain (LBP) may persist or recur over time, few studies have evaluated the individual course of LBP over a long-term period, particularly among older adults. Based on data

from the longitudinal Osteoporotic Fractures in Men (MrOS) study, we aimed to identify and describe different LBP trajectories in older men and characterize members in each trajectory group. [Read more...](#)

72. Acceptability of multimodal and multidisciplinary group-based program for chronic low back pain: a qualitative study

12-07-2024 - National Library of Medicine

CONCLUSIONS: The findings provide valuable insights into the acceptability of the PAINDOC Program, guiding future improvements and the development of similar interventions. [Read more...](#)

73. Following hip fracture, hospital organisational factors associated with prescription of anti-osteoporosis medication on discharge, to address imminent refracture risk: a record-linkage study

11-07-2024 - National Library of Medicine

Patients who sustain a hip fracture are known to be at imminent refracture risk. Their complex multidisciplinary rehabilitation needs to include falls prevention and anti-osteoporosis medication (AOM) to prevent such fractures. This study aimed to determine which hospital-level organisational factors predict prescription of post-hip fracture AOM, and refracture risk. [Read more...](#)

74. Importance of lumbar instability in the study of associations between muscle morphology, pain, and disability in chronic low back pain

11-07-2024 - National Library of Medicine

CONCLUSION: PM atrophy was associated with greater disability and pain in CLBP, but MF atrophy was associated with greater disability in CLBP patients with lumbar structural segmental instability. [Read more...](#)

75. Performance of the Brazilian Fracture Assessment Risk Tool (FRAX) model and the age-dependent intervention thresholds according to National Osteoporosis Guideline Group (NOGG) guidelines on fracture prediction in community-dwelling older adults: the Sao Paulo Ageing and Health (SPAHS) Study

11-07-2024 - National Library of Medicine

CONCLUSION: FRAX predicted NVF more accurately than VF or MOF in elderlies, regardless of BMD. These results reiterate that FRAX may be used without BMD, even considering that Brazilian elderlies have known higher fracture risk. [Read more...](#)

76. Lipid levels and low back pain risk: A two-sample mendelian randomization study

11-07-2024 - National Library of Medicine

CONCLUSION: This two-sample MR study demonstrated a causal relationship between lipid levels and LBP risk. Further investigations are necessary to elucidate the causal association and specific underlying mechanisms by which lipid levels contribute to the development of LBP. [Read more...](#)

77. An Observational Study of Various Risk Factors and Etiological Profile in Patients with Lower Back Pain at Tertiary Care Center

11-07-2024 - National Library of Medicine

CONCLUSION: Lower back pain is a multifaceted condition influenced by age, gender, BMI, and lifestyle factors. Effective management and prevention strategies should consider these risk factors to improve patients' quality of life. A comprehensive approach is essential to address the complex etiology of LBP. [Read more...](#)

78. The hidden cost of chronic pain: A narrative review of the environmental impact of outpatient spine and musculoskeletal care

11-07-2024 - National Library of Medicine

Health care is a major driver of greenhouse gas emissions and is closely intertwined with industrial processes responsible for air, water, and soil pollution. Chronic pain - particularly as it relates to spine and musculoskeletal diagnoses - comprises a significant portion of health care utilization and affects millions of people worldwide. Despite the prevalence of chronic spine and ...

[Read more...](#)

79. Intra-articular injection of autologous fat tissue in the treatment of patients with chronic knee pain due to osteoarthritis

10-07-2024 - National Library of Medicine

CONCLUSION: The results of the study suggest that minimally manipulated autologous fat tissue injections are effective and safe treatment methods for patients with grade I-III knee osteoarthritis. The results may not be satisfactory in severe osteoarthritis due to the limited capabilities. [Read](#)

[more...](#)

80. The effects of combining sensorimotor training with transcranial direct current stimulation on the anticipatory and compensatory postural adjustments in patients with chronic low back pain

10-07-2024 - National Library of Medicine

CONCLUSIONS: Both groups that received SMT showed positive effects, but anodal tDCS had an added value over sham stimulation for improving postural control strategies in patients with CLBP. Indeed, SMT combined with tDCS leads to stronger APA and less demand for CPA. [Read](#)

[more...](#)

81. Low back pain frequency and the related risk factors in nurses and caregivers

10-07-2024 - National Library of Medicine

CONCLUSION: The study findings indicated that being a hospital worker is a risk factor for low back pain, and the decrease in the strength and endurance of the lower back muscles increases the risk of low back pain. [Read more...](#)

82. Understanding the flexion-relaxation phenomenon in non-specific chronic low back pain patients through immersive virtual reality feedback approach

10-07-2024 - National Library of Medicine

The flexion-relaxation phenomenon (FRP) is frequently absent among non-specific chronic low back pain (NSCLBP) patients. However, it is unknown whether this absence is intrinsic to their pathology or merely a consequence of reduced trunk flexion. Immersive virtual reality (IVR) can create a patient avatar whose range of motion can be modulated to differ from the real movement.

[Read more...](#)

83. Beyond the chronic pain stage: default mode network perturbation depends on years lived with back pain

10-07-2024 - National Library of Medicine

Research has indicated that the default mode network (DMN) is perturbed in patients with chronic pain when compared with healthy controls, and this perturbation is correlated with the duration of pain during the chronic pain stage. It remains unclear whether DMN adaptations manifest during the subacute pain stage and progress over time because of the duration of pain experience, ... [Read more...](#)

84. Artificial intelligence-enhanced opportunistic screening of osteoporosis in CT scan: a scoping Review

10-07-2024 - National Library of Medicine

CONCLUSIONS: The review highlights AI's promising potential in enhancing opportunistic screening for osteoporosis using CT scans. While the field is still in its early stages, with most solutions at the proof-of-concept phase, the evidence supports increased efforts to incorporate AI into radiologic workflows. Addressing knowledge gaps, such as standardizing benchmarks and increasing external ... [Read more...](#)

85. Meta-analysis of electroacupuncture for nonspecific chronic low back pain

10-07-2024 - National Library of Medicine

No abstract [Read more...](#)

86. Evaluation of fragility fracture risk using deep learning based on ultrasound radio frequency signal

09-07-2024 - National Library of Medicine

CONCLUSIONS: This pilot cross-sectional study demonstrates that the MResNet model based on the ultrasonic RF signal shows promising performance in discriminating fragility fractures in postmenopausal women. When incorporating clinical covariates, the efficiency of the modified MResNet is further enhanced, surpassing the performance of QUS-SOS and DXA-BMD in terms of OR and AUC. [Read more...](#)

87. Potential Cost Savings with 60-day Peripheral Nerve Stimulation Treatment in Chronic Axial Low Back Pain

09-07-2024 - National Library of Medicine

CONCLUSIONS: Use of the 60-day PNS treatment as an initial interventional treatment in patients with CLBP may result in significant savings for Medicare. Projected savings may be even larger for commercial payers covering non-Medicare patients. [Read more...](#)

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MSK in child and adolescent health

MSK in child and adolescent health

1. Pediatric Musculoskeletal Variants

29-07-2024 - National Library of Medicine

No abstract [Read more...](#)

2. Item generation for a new patient-reported outcome measure: The non-traumatic anterior knee pain (AKP)-YOUTH scale

28-07-2024 - National Library of Medicine

CONCLUSION: This study developed an item bank of 23 items. These spanned four domains of impact for adolescents with anterior knee pain. The items had good face validity and were deemed relevant and understandable for adolescents with knee pain. Further steps are needed to validate and reduce the items for the non-traumatic anterior knee pain (AKP)-YOUTH scale. [Read more...](#)

3. Debilitating Musculoskeletal Disease in Two Free-Ranging Juvenile American Black Bears (*Ursus americanus*)

27-07-2024 - National Library of Medicine

Severe musculoskeletal disease characterized by marked joint laxity was the cause of euthanasia in two wild juvenile American black bears (*Ursus americanus*) admitted to a rehabilitation facility in eastern Tennessee in 2023. Previously, almost all reported musculoskeletal diseases in this

population were of traumatic etiology, even in malnourished yearlings. Case 1 was an orphaned ...
[Read more...](#)

4. An Eight-Week Randomized Controlled Trial of Active Mobilization of the Hamstrings for Non-Specific Low Back Pain and Musculoskeletal Discomfort during Prolonged Sitting among Young People: Study Protocol

27-07-2024 - National Library of Medicine

Participants will be recruited from the Faculty of Physical Education and randomly assigned to either the hamstring stretching group or the control group with education only. The primary outcome measures will be pain intensity, musculoskeletal discomfort, and functional disability. Secondary outcome measures will be satisfaction with the intervention and flexibility of the hamstring. [Read more...](#)

5. Sclerostin and Wnt Signaling in Idiopathic Juvenile Osteoporosis Using High-Resolution Confocal Microscopy for Three-Dimensional Analyses

27-07-2024 - National Library of Medicine

CONCLUSIONS: These results support a model that altered levels of sclerostin and Wnt signaling activity occur in IJO patients. [Read more...](#)

6. Magnetic resonance imaging of the musculoskeletal system in the diagnosis of rheumatic diseases in the pediatric population

26-07-2024 - National Library of Medicine

Magnetic resonance imaging (MRI) of the musculoskeletal system is an examination increasingly performed for suspected juvenile idiopathic arthritis, chronic nonbacterial osteomyelitis and juvenile idiopathic inflammatory myopathies, as well as other rheumatic diseases of developmental age. T1-, T2- and PD-weighted with or without fat suppression or short tau inversion recovery/turbo inversion ... [Read more...](#)

7. Pediatric intramuscular hemangioma in the submandibular triangle and other musculoskeletal presentations: A pediatric case series

25-07-2024 - National Library of Medicine

CONCLUSIONS: This case series contributes to the sparse scientific literature available regarding IMH, particularly in its head and neck presentation as relevant to otolaryngologists. [Read more...](#)

8. Update: Vitamin D(3) and calcium carbonate supplementation for adolescents with HIV to reduce musculoskeletal morbidity and immunopathology (VITALITY trial): study protocol for a randomised placebo-controlled trial

22-07-2024 - National Library of Medicine

BACKGROUND: Of the 2 million children living with HIV globally, 90% live in sub-Saharan Africa. Despite antiretroviral therapy, longstanding HIV infection is associated with several chronic complications in children including growth failure, particularly stunting and delayed puberty. Vitamin D deficiency, which is highly prevalent among children living with HIV in sub-Saharan Africa, ... [Read more...](#)

9. Clinical presentation and imaging findings in juvenile-onset back pain: a ten-year hospital-based retrospective analysis in Douala (Cameroon)

17-07-2024 - National Library of Medicine

CONCLUSION: JOBP affects a third of children and adolescents of our clinic population. The common musculoskeletal abnormalities found on spine imaging are disc diseases and scoliosis. [Read more...](#)

10. Pediatric Musculoskeletal Disorders: Keeping it Straight to Accurate Diagnosis

12-07-2024 - National Library of Medicine

No abstract [Read more...](#)

11. Adolescent athlete low back pain diagnoses, characteristics, and management: A retrospective chart review

09-07-2024 - National Library of Medicine

CONCLUSIONS: An awareness of the sex-based differences in adolescent athlete LBP diagnoses may be useful for clinicians. It may be important to refine methods of diagnosis of LBP in this group, as there was a high rate of diagnostic MRI use. Future research should be directed towards the development of management guidelines specific to LBP in adolescent athletes to assist in the optimal ... [Read more...](#)

12. Interventional effect of core stability training on pain and muscle function of youth with chronic non-specific lower back pain: A randomized controlled trial

08-07-2024 - National Library of Medicine

Nowadays, due to lifestyle changes, the number of young people suffering from chronic non-specific low back pain (CNLBP) is gradually increasing. The recent guidelines for the treatment of low back pain emphasize that exercise therapy is the preferred treatment method for CNLBP. This study take ordinary college male students with CNLBP as objective of the study, ... [Read more...](#)

13. Long-term musculoskeletal function after Open Pelvic ring fractures in Children (OPEC) a multicentre, retrospective case series with follow-up measurement

03-07-2024 - National Library of Medicine

CONCLUSION: Paediatric Open Pelvic fractures are challenging injuries associated with significant short-term complications and long-term musculoskeletal and urogenital issues. Further research is needed to develop tailored treatment strategies and improve outcomes of these patients. [Read more...](#)

14. Assessment of the Admission and Follow-up Characteristics of Children Diagnosed with Secondary Osteoporosis

02-07-2024 - National Library of Medicine

CONCLUSION: Secondary osteoporosis is a condition that is influenced by many factors, such as the primary disease causing osteoporosis, chronic medication use, especially steroids. If left untreated, osteoporosis leads to important diseases such as bone pain, bone fractures, immobilization, and reduced linear growth of bone. When used to treat childhood secondary osteoporosis, ... [Read more...](#)

15. Skeletal abnormalities, pediatric-onset severe osteoporosis, and multiple fragility fractures in a patient with a novel CTNNB1 de novo variant

02-07-2024 - National Library of Medicine

We report a case of a patient with a de novo germline heterozygous truncating variant of CTNNB1 gene (c.2172del, p.Tyr724Ter) causing neurodevelopmental disorder with spastic diplegia and visual defects syndrome (NEDSDV) associated with a new clinical feature - severe pediatric-onset osteoporosis and multiple fractures. A functional effect of the identified variant was demonstrated using ... [Read more...](#)

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MSK and multi-morbidity

MSK and multi-morbidity

1. Musculoskeletal Health Risks Associated With Smartphone Use: A Retrospective Study from Riyadh, Saudi Arabia

30-07-2024 - National Library of Medicine

CONCLUSION: This study highlights a substantial prevalence of musculoskeletal symptoms among smartphone users in Riyadh, Saudi Arabia, emphasizing the need for public health interventions to promote ergonomic practices and mitigate health risks associated with smartphone use. Future research should focus on longitudinal studies to establish causal relationships and evaluate intervention ... [Read more...](#)

2. Reliability, Concurrent Validity, and Clinical Performances of the Shorter Version of the Roland Morris Disability Questionnaire in a Sample of Italian People with Non-Specific Low Back Pain

27-07-2024 - National Library of Medicine

CONCLUSION: The RM-18 showed satisfactory psychometric testing and similarly impacted the NRS when compared to the RMQ. It can be recommended for clinical and research purposes in Italian people with NSLBP. [Read more...](#)

3. Is the occurrence of extra-articular calcaneal fractures of the joint depression type related to osteoporosis and aging?

26-07-2024 - National Library of Medicine

CONCLUSION: Extra-articular calcaneal fractures of the joint depression type are much more common in women and occur at an older age than calcaneal fractures commonly occur. These fractures are also more common in patients with a low bone mineral density. [Read more...](#)

4. Effects of the NeuroHAB Program on Low Back Pain and Oswestry Disability Index Scores: A Retrospective Wait-List Control Study

25-07-2024 - National Library of Medicine

Movement theory and the study of movement dysfunction mark a paradigm shift in the treatment of low back pain symptoms, the majority of which are mechanical in origin at the outset. Treating movement dysfunction centers around unified and consistent rehabilitation that defines proficient movement for the lumbopelvic spine. The purpose of this study is to document the improvement in pain and ... [Read more...](#)

5. Synergistic effect of osthole and notopterol combination against Alzheimer's disease and osteoporosis by applying zebrafish AD/OP comorbidity model

25-07-2024 - National Library of Medicine

Alzheimer's disease (AD) and osteoporosis (OP) are both serious degenerative diseases, with the potential for concurrent occurrence in clinical settings, and they share certain pathological correlations. Osthole (OST) and notopterol (NOT) are the main active ingredients in traditional Chinese medicine, *Angelica pubescens* and *Notopterygium incisum*, respectively, ... [Read more...](#)

6. Comparing health risks and musculoskeletal issues between professional and casual mobile esports players: a cross-sectional descriptive study in Jakarta

18-07-2024 - National Library of Medicine

Mobile gaming poses significant health risks, such as musculoskeletal (MSK) and eye problems, as players maintain the same posture for long periods. The objective of the current study is to describe the prevalence and assess the association of musculoskeletal and eye problems among professional gamers (PG) and casual gamers (CG) with their physical activity level and physical fitness. [Read more...](#)

7. Comparing musculoskeletal and connective tissue disorder risks of Teriparatide and abaloparatide in osteoporosis: an analysis based on FDA adverse event reporting system (FAERS)

17-07-2024 - National Library of Medicine

CONCLUSION: This FAERS-based data mining analysis highlighted potential MCTD risk profiles associated with TP and ABL treatment in osteoporosis patients, emphasizing the importance of monitoring and managing these AEs in clinical practice. The findings contribute to a deeper understanding of the safety profiles of these anabolic osteoporosis medications. [Read more...](#)

8. Comparison Between Disability, Physical Performance, and Other Biopsychosocial Factors in Full-Duty Career Firefighters Working With and Without Current Low Back Pain

15-07-2024 - National Library of Medicine

CONCLUSION: Nearly one-fifth of full-duty career firefighters without documented work restrictions reported having current LBP, and these individuals had deficits in several modifiable biopsychosocial factors across five health domains. These findings can help guide future research and implementation efforts in the fire service designed to improve performance, resiliency, work readiness, ... [Read more...](#)

9. Impact of musculoskeletal disability limitations on the economic unmet dental needs in South Korea

14-07-2024 - National Library of Medicine

CONCLUSIONS: This finding suggests poorer access to dental care among adults with MSDs owing to financial difficulties. It is necessary to explore various ways to address oral health inequalities among adults with MSD activity limitations. [Read more...](#)

10. Growth differentiation factor 15 (GDF-15) as a biomarker of cardiovascular risk in chronic musculoskeletal pain

08-07-2024 - National Library of Medicine

CONCLUSIONS: We provide evidence that GDF-15 could serve as a biomarker to assess CMP, as well as to predict CVD incidence in individuals with CMP. [Read more...](#)

11. Effects of bench press technique variations on musculoskeletal shoulder loads and potential injury risk

08-07-2024 - National Library of Medicine

While shoulder injuries resulting from the bench press exercise are commonly reported, no biomechanical evidence for lowering injury risk is currently available. Therefore, the aim of the present study was to compare musculoskeletal shoulder loads and potential injury risk during several bench press variations. Ten experienced strength athletes performed 21 technical variations of the barbell ... [Read more...](#)

12. Musculoskeletal Health and Work: Development and Internal-External Cross-Validation of a Model to Predict Risk of Work Absence and Presenteeism in People Seeking Primary Healthcare

04-07-2024 - National Library of Medicine

CONCLUSIONS: The developed models predict 6-month work absence and presenteeism with reasonable accuracy, on average, in adults consulting with MSD. The model to predict 12-month absence was poorly calibrated and is not yet ready for use in practice. This information may support shared decision-making and targeting occupational health interventions at those with a higher risk of absence or ... [Read more...](#)

13. The effect on back pain, anxiety, and comfort levels of an elevated supine position and back support applied to patients undergoing coronary angiography: A randomized controlled experimental study

02-07-2024 - National Library of Medicine

CONCLUSION: The elevated supine position with back support was seen to reduce back pain, increase comfort, and did not change anxiety levels. Clinical Trials No: NCT05546216. [Read more...](#)

14. Risk and related factors of elbow musculoskeletal diseases: A nationwide cross-sectional survey in China

02-07-2024 - National Library of Medicine

CONCLUSION: The toy manufacturing is a high-risk industry for elbow WMSDs. The publicity and education of ergonomics knowledge should be strengthened, and the workers' ergonomics awareness should be improved to reduce the impact of WMSDs. [Read more...](#)

15. Development and validation of a predictive model for vertebral fracture risk in osteoporosis patients

02-07-2024 - National Library of Medicine

CONCLUSION: This study presents a robust predictive model for OVFs risk, integrating BMD, CT data, and radiomics-DTL features, offering high sensitivity and specificity. The model's visualizations can inform OVFs prevention and treatment strategies. [Read more...](#)

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MSK health and inequalities

MSK health and inequalities

1. Beliefs regarding the use of imaging among patients with low back pain: A cross-sectional study in the context of a middle-income country

31-07-2024 - National Library of Medicine

CONCLUSION: Nearly 90% of patients believe that spine imaging is necessary for the management of low back pain. Beliefs about the inevitable consequences of low back pain and low education level may be factors that need to be considered when developing new interventions. [Read more...](#)

2. Musculoskeletal symptoms among workers of the pulp and paper industry: the contribution of age, gender, body mass index and physical activity level

29-07-2024 - National Library of Medicine

Objectives. This study aimed to investigate 12-month and 7-day prevalence of musculoskeletal symptoms among workers of the pulp and paper industry, and assess the contribution of age, gender, body mass index (BMI) and physical activity (PA). Methods. The sample comprised 904 workers. Musculoskeletal symptoms were assessed using the Nordic musculoskeletal questionnaire. [Read more...](#)

3. Using the Jigsaw Method to Improve Resident Confidence and Medical Knowledge About Osteoporosis in Men

29-07-2024 - National Library of Medicine

The jigsaw method which utilises peer-teaching in small-group settings permits a facilitator to incorporate active learning strategies into their educational toolbox. In November 2022, we evaluated the impact of the jigsaw method with groups stratified by post-graduate year (PGY)

level. We assessed pre and post learner confidence and medical knowledge during a facilitator-led workshop. [Read more...](#)

4. Assessment of rehabilitation nurses' knowledge and results of nurse educational programme (C2F) regarding osteoporosis and fragility fractures

26-07-2024 - National Library of Medicine

CONCLUSIONS: Rehabilitation Nurses in Portugal have room to improve their knowledge of osteoporosis and fragility fractures. The hybrid educational programme proved effective in improving nurses' knowledge, especially among specialist and orthopaedic service nurses. We hope that this knowledge can be translated into continuous improvement in healthcare provision. [Read more...](#)

5. The therapeutic mechanism of Compound Lurong Jiangu Capsule for the treatment of cadmium-induced osteoporosis: network pharmacology and experimental verification

25-07-2024 - National Library of Medicine

CONCLUSION: This study revealed that CLJC can reduce the expression of apoptosis-related proteins, and multiple components and multiple targets inhibit Cd-OP through apoptosis signaling pathway. [Read more...](#)

6. Effectiveness of simultaneous bilateral visual diaphragm biofeedback under low back pain: influence of age and sex

24-07-2024 - National Library of Medicine

Introduction: The aim of the present study was to determine the effectiveness of simultaneous bilateral visual diaphragm biofeedback (BFB) from ultrasonography in conjunction with inspiratory muscle training (IMT) on diaphragmatic thickness during normal breathing and respiratory and clinical outcomes in patients with non-specific low back pain (NSLBP) and determine the influence of age and sex. [Read more...](#)

7. Gender differences in the association between anemia and osteoporosis: findings from a large-scale prospective analysis

24-07-2024 - National Library of Medicine

PURPOSE: Osteoporosis (OP) is characterized by a gradual onset and an increased susceptibility to osteoporotic fractures. Previous retrospective studies have suggested that hemoglobin (HGB) levels could be a potential diagnostic marker for OP. However, the relationship between OP and anemia remains uncertain. This prospective study aimed to investigate the association between HGB levels and OP. [Read more...](#)

8. Characterization of metabolic features and potential anti-osteoporosis mechanism of pinorelin digluconate using metabolite profiling and network pharmacology

23-07-2024 - National Library of Medicine

CONCLUSIONS: This study was the first to demonstrate the metabolic characteristics of PDG in vivo and its potential anti-osteoporosis mechanism, providing the data for further pharmacological validation of PDG in the treatment of osteoporosis. [Read more...](#)

9. Correction: Patient education materials for non-specific low back pain and sciatica: A systematic review and meta-analysis

18-07-2024 - National Library of Medicine

[This corrects the article DOI: 10.1371/journal.pone.0274527.]. [Read more...](#)

10. Social determinants and work-related musculoskeletal disorders in Brazil

15-07-2024 - National Library of Medicine

This study aimed to analyze the prevalence of work-related musculoskeletal disorders (WMSD) and their association with individual and contextual factors in the Brazilian population. This quantitative cross-sectional study used secondary data from the Brazilian National Health Survey from August 2013 to February 2014. The dependent variable included WMSD, and independent variables were ... [Read more...](#)

11. The perceptions and knowledge of prognosis of physiotherapists in musculoskeletal practice: An exploratory qualitative study

11-07-2024 - National Library of Medicine

CONCLUSION: How physiotherapists perceive and understand the concept of prognosis is influenced by their foundational knowledge. It appears for physiotherapists, prognosis may be conceptualised within the biomedical model of health. Indeed, physiotherapists may perceive that prognosis is the timeline for recovery determined by the tissue model of healing. Physiotherapists also rely on ... [Read more...](#)

12. Knowledge Mapping of Macrophages in Osteoporosis: A Bibliometric Analysis (1999-2023)

10-07-2024 - National Library of Medicine

BACKGROUND: Osteoporosis is a common metabolic disorder that significantly impacts quality of life in the elderly population. Macrophages play a crucial role in the development of osteoporosis by regulating bone metabolism through cytokine secretion. However, there is a lack of scholarly literature in the field of bibliometrics on this topic. [Read more...](#)

13. Spinal loads during dynamic full flexion and return to standing posture in different age and sex groups: A musculoskeletal model study

10-07-2024 - National Library of Medicine

During forward flexion, spine motion varies due to age and sex differences. Previous studies showed that lumbar/pelvis range of flexion (RoF) and lumbo-pelvic ratio (L/P) are age/sex dependent. How variation of these parameters affects lumbar loading in a normal population requires further assessment. We aimed to estimate lumbar loads during dynamic flexion-return cycle and the differences in ... [Read more...](#)

14. Prioritisation of clinical trial learning needs of musculoskeletal researchers: an inter-disciplinary modified Delphi study by the Australia & New Zealand musculoskeletal clinical trials network

08-07-2024 - National Library of Medicine

CONCLUSIONS: This modified Delphi study generated a ranked list of clinical trial learning needs of musculoskeletal researchers. Findings can inform training courses and professional development to improve researcher capabilities and enhance the quality and conduct of musculoskeletal clinical trials. [Read more...](#)

15. Physiotherapists' attitudes and beliefs in the management of low back pain: Protocol for a systematic review

06-07-2024 - National Library of Medicine

CONCLUSION: Despite the emphasis on biopsychosocial approaches for managing LBP, the adoption of such approaches in physiotherapy practice is still suboptimal, with attitudes and beliefs of PTs being considered an important factor influencing treatment practices. Our review will summarise the literature on attitudes and beliefs of PTs towards LBP. Such knowledge would inform the need for ... [Read more...](#)

16. Comparative Review of the Socioeconomic Burden of Lower Back Pain in the United States and Globally

02-07-2024 - National Library of Medicine

Internationally, the United States (U.S.) cites the highest cost burden of low back pain (LBP). The cost continues to rise, faster than the rate of inflation and overall growth of health expenditures. We performed a comprehensive literature review of peer-reviewed and non-peer-reviewed literature from PubMed, Scopus, and Google Scholar for contemporary data on prevalence, cost, ... [Read more...](#)

17. Influence of Sex and Gender on Musculoskeletal Conditions and How They Are Reported

02-07-2024 - National Library of Medicine

There is increasing evidence that musculoskeletal tissues are differentially regulated by sex hormones in males and females. The influence of sex hormones, in addition to other sex-based differences such as in anatomical alignment and immune-system function, impact the prevalence and severity of disease as well as the types of injuries that affect the musculoskeletal system and the outcomes ... [Read more...](#)

18. Prevalence and determinants of low back pain among residents in Abha City, Saudi Arabia

01-07-2024 - National Library of Medicine

CONCLUSION: LBP is a very prevalent problem among resident physicians, particularly obese subjects and those with family history of back pain. LBP adversely impacts the work performance of the affected physicians. [Read more...](#)

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MSK health and nutrition

MSK health and nutrition

1. Severity of premenstrual symptoms among women with musculoskeletal pain: relation to vitamin D, calcium, and psychological symptoms

29-07-2024 - National Library of Medicine

Premenstrual syndrome (PMS) has various symptoms that occur during the luteal phase of the menstrual cycle and subside after menstruation. Anxiety and depression are prevalent in women with PMS and may exacerbate the severity of PMS. Vitamin D and calcium deficiency may have a role in developing anxiety, depression, and musculoskeletal pain (MSP). The aim of this study was to evaluate ... [Read more...](#)

2. Deficiency of protein phosphatase 5 resists osteoporosis in diabetic mice

29-07-2024 - National Library of Medicine

Osteoporosis is a common diabetic consequence that negatively affects patients' health and quality of life. Nevertheless, there is mutual interference between clinical drugs intended to regulate blood glucose and bone metabolism. Therefore, it is crucial to look for new treatment targets that effectively control blood glucose and safely protect the bone health of patients with diabetes. [Read more...](#)

3. The Characteristics of Gut Microbiota and Its Relation with Diet in Postmenopausal Osteoporosis

26-07-2024 - National Library of Medicine

The gut microbiome is linked to osteoporosis. Previous clinical studies showed inconsistent results. This study aimed to characterize the gut microbiota feature and reveal its relation with diet in postmenopausal osteoporosis. Fifty-five postmenopausal women with osteoporosis (Op group)

and forty-four age-matched postmenopausal women (normal bone mineral density, ... [Read more...](#)

4. Long-term ultraviolet B irradiation at 297 nm with light-emitting diode improves bone health via vitamin D regulation

18-07-2024 - National Library of Medicine

Ultraviolet radiation is the primary determinant for vitamin D synthesis. Sunlight is inefficient and poses a risk, particularly for long-term exposure. In this study, we screened the most favorable wavelength for vitamin D synthesis among four types of narrowband light-emitting diodes (LEDs) and then irradiated osteoporosis rats with the optimal wavelength for 3-12 months. [Read more...](#)

5. Quantitative calcium-based assessment of osteoporosis in dual-layer spectral CT

17-07-2024 - National Library of Medicine

CONCLUSION: VCa images showed better agreement with DXA and known calcium concentrations than CI, and could be used to estimate BMD. A VCa cut-off of 126HU could be used to identify abnormal bone mineral density. [Read more...](#)

6. Impdh2 deficiency suppresses osteoclastogenesis through mitochondrial oxidative phosphorylation and alleviates ovariectomy-induced osteoporosis

03-07-2024 - National Library of Medicine

Abnormalities in osteoclastic generation or activity disrupt bone homeostasis and are highly involved in many pathologic bone-related diseases, including rheumatoid arthritis, osteopetrosis, and osteoporosis. Control of osteoclast-mediated bone resorption is crucial for treating these bone diseases. However, the mechanisms of control of osteoclastogenesis are incompletely understood. [Read more...](#)

7. B vitamins and bone health: a meta-analysis with trial sequential analysis of randomized controlled trials

02-07-2024 - National Library of Medicine

CONCLUSIONS: Available evidence from RCTs does not support VBs can effectively influence osteoporotic fracture risk, BMD, and BTMs. [Read more...](#)

8. A Health Technology Assessment Based on Chinese Guideline: Active Vitamin D and Its Analogs in the Treatment of Osteoporosis

01-07-2024 - National Library of Medicine

CONCLUSION: Based on the scoring results, alfacalcidol soft capsules, calcitriol soft capsules I, calcitriol soft capsules II, alfacalcidol tablets can be entered into the medication list of medical institutions as strongly recommended drugs. This study offers guidance on selecting and using active vitamin D and its analogs in hospitals, with consideration for the patient's needs. [Read more...](#)

9. Role of Nutrition in the Management of Patients with Chronic Musculoskeletal Pain

01-07-2024 - National Library of Medicine

Chronic musculoskeletal pain (CMP), defined as persistent discomfort in musculoskeletal tissues persisting for over 3 months, afflicts an estimated 1.71 billion people globally, leading to significant functional impairments and psychological distress, thereby detrimentally affecting individuals' quality of life. The objective of this narrative review is to elucidate the complex relationship ... [Read more...](#)

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MSK health and workplace wellbeing

MSK health and workplace wellbeing

1. The implementation study of nurses' work related low back pain prevention and care guideline: A quasi-experimental study

25-07-2024 - National Library of Medicine

CONCLUSIONS: The implementation study supports the successful application of the guideline, which can serve as a valuable evidence-based document to improve back health of nursing personnel. [Read more...](#)

2. Space-time analysis of work-related musculoskeletal disorders in Brazil: an ecological study

24-07-2024 - National Library of Medicine

This study aimed to analyze the incidence of work-related musculoskeletal disorders (WMSD) in Brazil from 2007 to 2019, examining the spatial, temporal, and spatiotemporal patterns of their occurrence. An ecological time series study was conducted using spatial analysis techniques. WMSD morbidity data from 2007 to 2019 were collected from the Brazilian Information System for Notifiable ... [Read more...](#)

3. Are we straining to succeed? Prevalence of work-related musculoskeletal disorders among dentists in teaching hospitals

19-07-2024 - National Library of Medicine

CONCLUSIONS: A significantly high number of dentists were found to have some form of work-related musculoskeletal disorder. [Read more...](#)

4. Systematic review and tools appraisal of prognostic factors of return to work in workers on sick leave due to musculoskeletal and common mental disorders

17-07-2024 - National Library of Medicine

With the overall objective of providing implication for clinical and research practices regarding the identification and measurement of modifiable predicting factors for return to work (RTW) in people with musculoskeletal disorders (MSDs) and common mental disorders (CMDs), this study 1) systematically examined and synthesized the research evidence available in the literature on the topic, ... [Read more...](#)

5. Work-Related Musculoskeletal Disorders: A Systematic Review and Meta-Analysis

13-07-2024 - National Library of Medicine

Background: Musculoskeletal disorders (MSDs) involve muscles, nerves, tendons, joints, cartilage, and spinal discs. These conditions can be triggered by both the work environment and the type of work performed, factors that, in some cases, can also exacerbate pre-existing conditions. This systematic review aims to provide an overview of the impact that different work-related activities have ... [Read more...](#)

6. Work-Related Musculoskeletal Disorders in Endoscopic Sinus and Skull Base Surgery: A Systematic Review With Meta-analysis

07-07-2024 - National Library of Medicine

CONCLUSION: WRMDs are highly prevalent in endoscopic sinus and skull base surgeons. Further studies focusing on the direct outcomes of WRMD such as pain are needed. [Read more...](#)

7. Work-related musculoskeletal disorders, fatigue and stress among gas station workers in China: a cross-sectional study

05-07-2024 - National Library of Medicine

CONCLUSIONS: This research identified the detrimental impact of WMSDs and fatigue on gas station workers, indicating the critical need for interventions to reduce WMSDs and relieve fatigue.

[Read more...](#)

8. Promoting running as the best treatment for lower back pain in physiotherapy practice: a best practice implementation project

03-07-2024 - National Library of Medicine

CONCLUSIONS: The project highlighted the effectiveness of collaborative efforts between patients and therapists to address the issue. The project team's conviction in action and solution strategies serves as the foundation for this collaboration. This implementation strategy provided "running" patients with the confidence to either resume or reintegrate running after an extended break. [Read more...](#)

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MSK health communication

MSK health communication

1. A digital volume pulse device-finger photo pulse plethysmography to trace the vascular integrity amongst the low back pain subjects with lumbar disc degenerative diseases diagnosed by MRI analysis

17-07-2024 - National Library of Medicine

Finger photo pulse plethysmography is a simple, inexpensive and non-invasive method for measurement of arterial stiffness. The objective is to assess the correlation of arterial stiffness in low back pain subjects with lumbar disc degeneration. Thirty-four back pain patients of both sexes in age group of 30-65 were included. Anthropometric measures like height, body weight, ... [Read more...](#)

2. BackTrAC: A Digital Care Pathway for People Presenting to Emergency with Lower Back Pain. A Development and Feasibility Study Protocol

09-07-2024 - National Library of Medicine

OBJECTIVES: Back pain is a prevalent condition that affects 1 in 6 Australians at any time, with high associated health care costs. To date, there is limited information relating to symptom severity and recovery trajectory in people with back pain who present to the emergency department for care. A digital care pathway (DCP) can track patient outcomes following presentation with back pain. [Read more...](#)

3. Spinal fusion surgery use among adults with low back pain enrolled in a digital musculoskeletal program: an observational study

05-07-2024 - National Library of Medicine

CONCLUSIONS: This study provides evidence that participation in a digital MSK program is associated with a lower rate of spinal fusion surgery. [Read more...](#)

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MSK health data and surveillance

MSK health data and surveillance

1. Molecular Regulation of Bone Turnover in Juvenile Idiopathic Arthritis: Animal Models, Cellular Features and TNF α

31-07-2024 - National Library of Medicine

We review the abnormal bone turnover that is the basis of idiopathic inflammatory or rheumatoid arthritis and bone loss, with emphasis on Tumor Necrosis Factor-alpha (TNF α)-related mechanisms. We review selected data on idiopathic arthritis in juvenile human disease, and discuss mouse models focusing on induction of bone resorbing cells by TNF α and Receptor Activator of Nuclear Factor kappa B ... [Read more...](#)

2. Anti-inflammatory effect of the combined treatment of LMT-28 and kaempferol in a collagen-induced arthritis mouse model

31-07-2024 - National Library of Medicine

Rheumatoid arthritis (RA) is an autoimmune disease characterized by joint inflammation and swelling. Several studies have demonstrated that RA fibroblast-like synovial cells (RA-FLS) play an important role in RA pathogenesis. Activated RA-FLS contribute to synovial inflammation by secreting inflammatory cytokines including interleukin (IL)-1 β , IL-6 and tumor necrosis factor- α . [Read more...](#)

3. Questionnaire survey of the application of four objective indicators necessary for standardized diagnosis of Sjogren's syndrome

30-07-2024 - National Library of Medicine

Objective: To investigate the current status and challenges of carrying out the four objective indicators which are necessary for the Sjögren's syndrome (SS) diagnosis in hospitals all over China. Methods: A questionnaire survey was conducted online by Questionstar from May to July 2023 among rheumatologists nationwide, to investigate whether unstimulated salivary flow (UWSF), ... [Read more...](#)

4. Functions of Epimedin C in a zebrafish model of glucocorticoid-induced osteoporosis

29-07-2024 - National Library of Medicine

Epimedium is thought to enhance the integrity of tendons and bones, ease joint discomfort and rigidity and enhance kidney function. Although glucocorticoids are commonly used in clinical practice, the mechanism by which the active compound Epimedin C (EC) alleviates glucocorticoid-induced osteoporosis (GIOP) is not well understood. The therapeutic potential of EC in treating GIOP was ... [Read more...](#)

5. The effect of injectable platelet-rich fibrin in combination with autogenous bone grafts on bone healing in an ovariectomized osteoporotic rat model with critical-sized defects

29-07-2024 - National Library of Medicine

CONCLUSION: The combined use of ABG and I-PRF enhances bone formation in osteoporotic rats following ovariectomy. [Read more...](#)

6. Joint Inflammation Correlates with Joint GPR30 Expression in Males and Hippocampal GPR30 Expression in Females in a Rat Model of Rheumatoid Arthritis

27-07-2024 - National Library of Medicine

It is not entirely clear how the interaction between joint inflammation and the central nervous system (CNS) response in rheumatoid arthritis (RA) works, and what pathophysiology underlies

the sex differences in coexisting neuropsychiatric comorbidities. It is known that estrogen hormones reduce inflammation in RA and that this occurs mainly via the stimulation of G protein-coupled ... [Read more...](#)

7. Analysis of the Actions of RARgamma Agonists on Growing Osteochondromas in a Mouse Model

27-07-2024 - National Library of Medicine

The actions of the retinoic acid nuclear receptor gamma (RAR γ) agonist, palovarotene, on pre-existing osteochondromas were investigated using a mouse multiple osteochondroma model. This approach was based on the knowledge that patients often present to the clinic after realizing the existence of osteochondroma masses, and the findings from preclinical investigations are the effects of drugs ... [Read more...](#)

8. Fat Fraction Extracted from Whole-Body Magnetic Resonance (WB-MR) in Bone Metastatic Prostate Cancer: Intra- and Inter-Reader Agreement of Single-Slice and Volumetric Measurements

26-07-2024 - National Library of Medicine

CONCLUSION: This study suggests that FF% measurements are reproducible, particularly for larger lesions in both SS and VS assessments. [Read more...](#)

9. Fat Phagocytosis Promotes Anti-Inflammatory Responses of Macrophages in a Mouse Model of Osteonecrosis

26-07-2024 - National Library of Medicine

Osteonecrosis (ON) of the femoral head (ONFH) is a devastating bone disease affecting over 20 million people worldwide. ONFH is caused by a disruption of the blood supply, leading to necrotic cell death and increased inflammation. Macrophages are the key cells mediating the inflammatory responses in ON. It is unclear what the dynamic phenotypes of macrophages are and what mechanisms may ... [Read more...](#)

10. Electrochemical and Fluorescence MnO₂-Polymer Dot Electrode Sensor for Osteoarthritis-Based Peroxisomal β -Oxidation Knockout Model

26-07-2024 - National Library of Medicine

A coenzyme A (CoA-SH)-responsive dual electrochemical and fluorescence-based sensor was designed utilizing an MnO(2)-immobilized-polymer-dot (MnO(2)@D-PD)-coated electrode for the sensitive detection of osteoarthritis (OA) in a peroxisomal β -oxidation knockout model. The CoA-SH-responsive MnO(2)@D-PD-coated electrode interacted sensitively with CoA-SH in OA chondrocytes, ... [Read more...](#)

11. Role of connexin 43 in a rat model of periodontitis-induced renal injury

25-07-2024 - National Library of Medicine

CONCLUSIONS: Periodontitis may activate NF- κ B signaling molecules by upregulating the expression of Cx43 in rat kidney tissues, leading to increased levels of inflammation and apoptosis and ultimately inducing kidney injury. [Read more...](#)

12. Temporal and spatial expression analysis of periostin in mice periodontitis model

25-07-2024 - National Library of Medicine

CONCLUSIONS: Periostin expression in the PDL of mice showed a downward and upward trend with inflammation progression. The significant recovery of periostin expression after removing inflammatory stimuli may be related to TGF- β 1, which is crucial to maintain the integrity of the PDL. [Read more...](#)

13. Establishment of a predictive scoring model and preventive measures for bladder neck contracture after laparoscopic enucleation of the prostate with urethra preservation

24-07-2024 - National Library of Medicine

CONCLUSION: Laparoscopic Madigan surgery is a safe and effective method for the treatment of BPH. Short clinical experience of the surgeon, concurrent prostatitis, bladder rinse solution temperature 40 ml and postoperative constipation were independent risk factors for postoperative BNC. The predictive scoring model constructed in this study has a good discriminability and is simple and ... [Read more...](#)

14. INTRA-ABDOMINAL PRESSURE MONITORING DURING LÁZARO DA SILVA'S PROCEDURE FOR VENTRAL HERNIA REPAIR: A CROSS-SECTIONAL STUDY

24-07-2024 - National Library of Medicine

CONCLUSIONS: Despite the IAP increase observed, Lázaro da Silva's procedure did not result in intra-abdominal hypertension or abdominal compartment syndrome. [Read more...](#)

15. Reproductive health and pregnancy clinic for patients with rheumatic diseases: A multidisciplinary-care model description

23-07-2024 - National Library of Medicine

No abstract [Read more...](#)

16. A genetic mouse model mimicking MET related human osteofibrous dysplasia is characterized by delays in fracture repair and defective osteogenesis

23-07-2024 - National Library of Medicine

Osteofibrous dysplasia (OFD) is a rare, benign, fibro-osseous lesion that occurs most commonly in the tibia of children. Tibial involvement leads to bowing and predisposes to the development of a fracture which exhibit significantly delayed healing processes, leading to prolonged morbidity. We previously identified gain-of-function mutations in the MET gene as a cause for OFD. [Read more...](#)

17. Surgical Bone Implantation Technique for Rat Tibia Models of Diabetes and Osteoporosis

22-07-2024 - National Library of Medicine

The rat has long served as a valuable animal model in implant dentistry and orthopedics, particularly in studying the interactions between biomaterials and bone tissue. The rat's tibia is frequently chosen due to its easy surgical access through thin tissue layers (skin and muscle) and the flattened shape of its medial face, facilitating the surgical insertion of intraosseous devices. [Read more...](#)

18. The rabbit model for spinal tuberculosis: An overview

21-07-2024 - National Library of Medicine

Mycobacterium tuberculosis infection has emerged as a global public health issue, predominantly manifesting as pulmonary tuberculosis. Bone and joint tuberculosis, with spinal tuberculosis accounting for approximately 50%, represents a significant form of extrapulmonary tuberculosis. Over the past years, there has been a rise in the incidence of spinal tuberculosis, ... [Read more...](#)

19. Early predictive value of ultrasound measurements of rectus femoris cross-sectional area to diagnose ICU-acquired weakness in patients undergoing invasive mechanical ventilation: a prospective cohort study

20-07-2024 - National Library of Medicine

CONCLUSION: Ultrasound measurements of RFCSA provide a reliable method for diagnosing ICUAW and indicating prognosis in patients undergoing invasive mechanical ventilation. [Read more...](#)

20. Selective serotonin re-uptake inhibitors affect craniofacial structures in a mouse model

18-07-2024 - National Library of Medicine

Selective serotonin re-uptake inhibitors (SSRI) widely used in the treatment of depression, anxiety, obsessive compulsive disorder, fibromyalgia, and migraine are among the most heavily prescribed drug class in the United States (US). Along with an overall rise in SSRI use, these medications are increasingly used by pregnant individuals and recent preclinical and clinical studies have ... [Read more...](#)

21. The exposure to extremely low frequency electromagnetic-fields inhibits the growth and potentiates the sensitivity to chemotherapy of bidimensional and tridimensional human osteosarcoma models

18-07-2024 - National Library of Medicine

We previously established a thermodynamical model to calculate the specific frequencies of extremely low frequency-electromagnetic field (ELF-EMF) able to arrest the growth of cancer cells. In the present study, for the first time, we investigated the efficacy of this technology on osteosarcoma, and we applied a precise frequency of the electromagnetic field on three human osteosarcoma cell ... [Read more...](#)

22. Comparing two common posterior C1-C2 fixation techniques for treating odontoid fractures in the aging spine: insights from a cadaveric model using osteoporotic spines

17-07-2024 - National Library of Medicine

No abstract [Read more...](#)

23. Reviewing recommendations from the IWGDF 2023 guidelines on the diagnosis and treatment of active Charcot neuro-osteoarthropathy: highlighting the role of temperature monitoring with illustrative case reports

17-07-2024 - National Library of Medicine

The International Working Group on the Diabetic Foot (IWGDF) has consistently published evidence-based guideline recommendations on the prevention and management of diabetes-related foot complications. In 2023, the group published their first guidelines on the diagnosis and treatment of Charcot neuro-osteoarthropathy (CNO) in persons with diabetes. The guidelines highlight 26 recommendations ... [Read more...](#)

24. Structural equation model analysis of the effect of visceral fat on osteoporosis

16-07-2024 - National Library of Medicine

CONCLUSION: Obesity, besides age and female menopause, is also an influencing factor of osteoporosis. The visceral fat index plays a vital role in osteoporosis. Our findings may provide experimental evidence for early prevention and treatment of osteoporosis. [Read more...](#)

25. A novel method to monitor rheumatoid arthritis prevalence using hospital and medication databases

16-07-2024 - National Library of Medicine

CONCLUSIONS: We provide an algorithm for identifying individuals with RA, which could be used for population studies and monitoring RA in Australia and, with adjustments, internationally. Its balance of accuracy and practicality will be useful for health service planning using relatively easily accessible input data. [Read more...](#)

26. A Mathematical Model for Fibrous Dysplasia: The Role of the Flow of Mutant Cells

15-07-2024 - National Library of Medicine

Fibrous dysplasia (FD) is a mosaic non-inheritable genetic disorder of the skeleton in which normal bone is replaced by structurally unsound fibro-osseous tissue. There is no curative treatment for FD, partly because its pathophysiology is not yet fully known. We present a simple mathematical model of the disease incorporating its basic known biology, to gain insight on the dynamics of the ... [Read more...](#)

27. A model linking emotional dysregulation in neurodivergent people to the proprioceptive impact of joint hypermobility

15-07-2024 - National Library of Medicine

Emotional feelings are putatively ascribed to central representation of bodily states in the context of expectation and uncertainty in both internal state and external world. Neurodivergent people are more likely to experience co-occurring mental health challenges, although mechanistic insights underpinning this association are scarce. We therefore undertook a study to test whether imprecise ... [Read more...](#)

28. External Validation and Update of the Risk Prediction Model for Denosumab-Induced Hypocalcemia Developed From a Hospital-Based Administrative Database

15-07-2024 - National Library of Medicine

CONCLUSION: We developed an updated risk prediction model for denosumab-induced hypocalcemia with small interfacility differences. Our results indicate the importance of using data from plural facilities with different characteristics in the external validation of generalized prediction models and may be generally relevant to the clinical application of risk prediction models. [Read more...](#)

29. Adenine base editing-mediated exon skipping restores dystrophin in humanized Duchenne mouse model

15-07-2024 - National Library of Medicine

Duchenne muscular dystrophy (DMD) affecting 1 in 3500-5000 live male newborns is the frequently fatal genetic disease resulted from various mutations in DMD gene encoding dystrophin protein. About 70% of DMD-causing mutations are exon deletion leading to frameshift of open reading frame and dystrophin deficiency. To facilitate translating human DMD-targeting CRISPR therapeutics into patients, ... [Read more...](#)

30. Promoting safety of underground machinery operators through participatory ergonomics and fuzzy model analysis to foster sustainable mining practices

15-07-2024 - National Library of Medicine

One of the most vital parameters to achieve sustainability in any field is encompassing the Occupational Health and Safety (OHS) of the workers. In mining industry where heavy earth moving machineries are largely employed, ergonomic hazards turn out to be significant OHS hazards causing Musculoskeletal Disorders (MSDs) in the operators. Nevertheless, the Indian mining industry lacks a ... [Read more...](#)

31. Burden of non-communicable diseases among women of reproductive age in Kenya: a cross-sectional study

13-07-2024 - National Library of Medicine

CONCLUSION: We conclude that hypertension is the most prevalent NCD among women of reproductive age in Kenya. The findings underscore the multifaceted nature of NCD risk factors in

Kenya, emphasising the importance of targeted interventions that consider age, economic status, education, marital status, occupation and lifestyle factors. [Read more...](#)

32. Age-related dysregulation of CXCL9/10 in monocytes is linked to impaired innate immune responses in a mouse model of Staphylococcus aureus osteomyelitis

13-07-2024 - National Library of Medicine

CONCLUSIONS: These findings demonstrate that bone marrow monocytes act as a critical promotor of innate immune response via the CXCL9/10-CXCR3 axis upon *S. aureus* infection, and that the increased susceptibility to *S. aureus* infection in skeleton in an aged host may be largely attributable to the declined induction of CXCR9/10 in monocytes. [Read more...](#)

33. Systemic Pharmacotherapeutic Treatment of the ACTA1-MCM/FLExDUX4 Preclinical Mouse Model of FSHD

13-07-2024 - National Library of Medicine

Aberrant expression of the double homeobox 4 (DUX4) gene in skeletal muscle predominantly drives the pathogenesis of facioscapulohumeral muscular dystrophy (FSHD). We recently demonstrated that berberine, an herbal extract known for its ability to stabilize guanine-quadruplex structures, effectively downregulates DUX4 expression in FSHD patient-derived myoblasts and in mice overexpressing ... [Read more...](#)

34. The reliability and validity of the juvenile idiopathic arthritis magnetic resonance scoring system for temporomandibular joints

13-07-2024 - National Library of Medicine

In children with juvenile idiopathic arthritis (JIA), the temporomandibular joint (TMJ) can be involved. To prevent TMJ damage due to inflammation, early recognition is important, for which contrast-enhanced magnetic resonance imaging (MRI) is the gold standard. In this study, the interobserver reliability and construct validity of the Juvenile Idiopathic Arthritis Magnetic Resonance Scoring ... [Read more...](#)

35. Quercetin Modulates Ferroptosis via the SIRT1/Nrf-2/HO-1 Pathway and Attenuates Cartilage Destruction in an Osteoarthritis Rat Model

13-07-2024 - National Library of Medicine

Osteoarthritis (OA) is the most common joint disease, causing symptoms such as joint pain, swelling, and deformity, which severely affect patients' quality of life. Despite advances in medical treatment, OA management remains challenging, necessitating the development of safe and effective drugs. Quercetin (QUE), a natural flavonoid widely found in fruits and vegetables, ... [Read more...](#)

36. Global, regional, and national burden of gout, 1990-2020, and projections to 2050: a systematic analysis of the Global Burden of Disease Study 2021

12-07-2024 - National Library of Medicine

BACKGROUND: Gout is an inflammatory arthritis manifesting as acute episodes of severe joint pain and swelling, which can progress to chronic tophaceous or chronic erosive gout, or both. Here, we present the most up-to-date global, regional, and national estimates for prevalence and years lived with disability (YLDs) due to gout by sex, age, and location from the Global Burden of Diseases, ... [Read more...](#)

37. Fibromyalgia pathogenesis explained by a neuroendocrine multistable model

11-07-2024 - National Library of Medicine

Fibromyalgia (FM) is a central disorder characterized by chronic pain, fatigue, insomnia, depression, and other minor symptoms. Knowledge about pathogenesis is lacking, diagnosis

difficult, clinical approach puzzling, and patient management disappointing. We conducted a theoretical study based on literature data and computational analysis, aimed at developing a comprehensive model of FM ... [Read more...](#)

38. Integrative gene expression analysis and animal model reveal immune- and autophagy-related biomarkers in osteomyelitis

11-07-2024 - National Library of Medicine

CONCLUSIONS: From an immunological perspective, a diagnostic model was successfully developed, and two distinct clustering patterns were identified. These contributions offer a significant resource for the early detection and personalized immunotherapy of patients with OM. [Read more...](#)

39. Burden of gout among different WHO regions, 1990-2019: estimates from the global burden of disease study

10-07-2024 - National Library of Medicine

The global incidence of gout has increased rapidly, likely secondary to the increase in the prevalence of conditions that predispose to gout, such as obesity. Depending on the population studied, the prevalence of gout ranges from less than 1 to 6.8%. Thus, gout can be a significant burden on healthcare systems. The objective of this study is to observe the trends in the incidence, prevalence, ... [Read more...](#)

40. Anthropometric study of the scapula in a contemporary population from granada. Sex estimation and glenohumeral osteoarthritis prevalence

10-07-2024 - National Library of Medicine

Anthropometric studies of the scapula have been rare in Spanish populations, nevertheless they are of current interest in forensic anthropology for estimation of sex. Although the estimation of sex is usually carried out on the pelvis and skull, other measurements related to the scapula can be helpful when the skeletal remains are incomplete. Glenohumeral osteoarthritis development is ... [Read more...](#)

41. Salbutamol repurposing ameliorates neuromuscular junction defects and muscle atrophy in Col6a1^{-/-} mouse model of collagen VI-related myopathies

10-07-2024 - National Library of Medicine

No abstract [Read more...](#)

42. Three-dimensional modelling and printing in anterior chest wall reconstruction and stabilisation

08-07-2024 - National Library of Medicine

Anterior chest wall instability as a result of sternocostal non-union is a rare complication but can give rise to invalidating pain and cardiac arrhythmias. A woman in her 40s was referred to us with anterior chest wall pain and instability after a modified Ravitch procedure. Sternocostal pseudoarthrosis was seen for which multiple operations were performed which were complicated by low-grade ... [Read more...](#)

43. Comparing the effects of low-level laser therapy and gaseous ozone as a preventive measure on medication-related osteonecrosis of the jaws following tooth extraction: a rat model

08-07-2024 - National Library of Medicine

CONCLUSIONS: Findings of the current study support that adjunctive LLLT and ozone therapy following tooth extraction may help prevent MRONJ and improve bone healing in subjects under zoledronic acid therapy. [Read more...](#)

44. 2023 American College of Rheumatology (ACR)/American College of Chest Physicians (CHEST) Guideline for the Screening and Monitoring of Interstitial Lung Disease in People with Systemic Autoimmune Rheumatic Diseases

08-07-2024 - National Library of Medicine

CONCLUSION: This clinical practice guideline presents the first recommendations endorsed by the American College of Rheumatology and American College of Chest Physicians for the screening and monitoring of ILD in people with SARDs. [Read more...](#)

45. Validity and reliability of the Tardieu scale for assessing upper limb spasticity in adults with cerebrovascular disease. Systematic review

08-07-2024 - National Library of Medicine

CONCLUSIONS: The Tardieu scale proved robust. It is important to note that the sample size, the time of evolution of the disease and the age of the patients may influence the results of the scale. [Read more...](#)

46. Mutant androgen receptor induces neurite loss and senescence independently of ARE binding in a neuronal model of SBMA

08-07-2024 - National Library of Medicine

Spinal and bulbar muscular atrophy (SBMA) is a slowly progressing neuromuscular disease caused by a polyglutamine (polyQ)-encoding CAG trinucleotide repeat expansion in the androgen receptor (AR) gene, leading to AR aggregation, lower motor neuron death, and muscle atrophy. AR is a ligand-activated transcription factor that regulates neuronal architecture and promotes axon regeneration ... [Read more...](#)

47. The dynamic progression of temporomandibular joint osteoarthritis-like lesions elicited by mandibular shift in a rat model

06-07-2024 - National Library of Medicine

CONCLUSION: Recovery from early-stage TMJ-OA involves eliminating provoking factors such as occlusal interference or reducing joint loading. However, advanced stages exhibit diminished self-repair capabilities, necessitating additional therapeutic interventions. These findings emphasize the importance of early diagnosis and intervention in TMJ-OA management. [Read more...](#)

48. Lingzhi or Reishi Medicinal Mushroom *Ganoderma lucidum* (Agaricomycetes) Nanogel in a Complete Freund's Adjuvant-Induced Rheumatoid Arthritis Rat Model: Anti-Arthritic, Anti-Inflammatory, and Antioxidative Activity

05-07-2024 - National Library of Medicine

Lingzhi or reishi mushroom, *Ganoderma lucidum*, is a medicinal mushroom quite widely developed as herbal medicine because it has acted as an anticancer, antitumor, antioxidant, and anti-inflammatory. The active mycochemical compounds of *G. lucidum* mushrooms, such as flavonoids and polysaccharides, can suppress the release of pro-inflammatory cytokines and prevent lipid peroxidation due to ... [Read more...](#)

49. Quantitative measurements of dual-energy CT parameters in the diagnosis of osteoporosis - a highly sensitive and specific technique: An observational study

05-07-2024 - National Library of Medicine

With the aging of the population in our society, osteoporosis (OP) has become one of the chronic diseases that seriously threaten the physical health of the elderly, leading to a heavy burden on healthcare. In recent years, with the continuous development of dual-energy CT (DECT) technology, quantitative measurements of DECT parameters, which is highly sensitive to OP, ... [Read more...](#)

50. Comparison of disease-modifying anti-rheumatic drugs and hyperbaric oxygen therapy in the experimental model of rheumatoid arthritis in rats

05-07-2024 - National Library of Medicine

In this study, we wanted to investigate the effectiveness of combining disease-modifying anti-rheumatic drugs (DMARD) with hyperbaric oxygen therapy (HBOT) in reducing inflammation in a rheumatoid arthritis (RA) model using rats. We divided 56 male Sprague-Dawley rats into seven groups and induced RA using complete Freund's adjuvant. Some groups received HBOT, ... [Read more...](#)

51. Transmural APD heterogeneity determines ventricular arrhythmogenesis in LQT8 syndrome: Insights from Bidomain computational modeling

05-07-2024 - National Library of Medicine

Long QT Syndrome type 8 (LQT8) is a cardiac arrhythmic disorder associated with Timothy Syndrome, stemming from mutations in the CACNA1C gene, particularly the G406R mutation. While prior studies hint at CACNA1C mutations' role in ventricular arrhythmia genesis, the mechanisms, especially in G406R presence, are not fully understood. This computational study explores how the G406R mutation, ... [Read more...](#)

52. Characterization of the gut microbiota and fecal metabolome in the osteosarcoma mouse model

05-07-2024 - National Library of Medicine

Previous studies have reported the correlation between gut microbiota (GM), GM-derived metabolites, and various intestinal and extra-intestinal cancers. However, limited studies have investigated the correlation between GM, GM-derived metabolites, and osteosarcoma (OS). This study successfully established a female BALB/c nude mouse model of OS. Mice (n = 14) were divided into the following ... [Read more...](#)

53. AI driven analysis of MRI to measure health and disease progression in FSHD

04-07-2024 - National Library of Medicine

Facioscapulohumeral muscular dystrophy (FSHD) affects roughly 1 in 7500 individuals. While at the population level there is a general pattern of affected muscles, there is substantial heterogeneity in muscle expression across- and within-patients. There can also be substantial variation in the pattern of fat and water signal intensity within a single muscle. While quantifying individual ... [Read more...](#)

54. A quantitative comparison between the essential medicines for rheumatic diseases in children and young people in Africa and the WHO model list

04-07-2024 - National Library of Medicine

CONCLUSION: Four countries (8.5%) in Africa have updated their National Essential Medicines Lists to reflect adequate care for children and young people with rheumatic diseases. Moving forward, efforts should focus on aligning available medicines with the WHO EML, and strengthening healthcare policy for rheumatology and pharmaceutical services, for affordable access to care and medicines. [Read more...](#)

55. Integrated analysis of single-cell RNA-seq, bulk RNA-seq, Mendelian randomization, and eQTL reveals T cell-related nomogram model and subtype classification in rheumatoid arthritis

04-07-2024 - National Library of Medicine

CONCLUSION: Our findings elucidate the heterogeneity of T cells in RA and the communication role of these cells in an RA immune microenvironment. The construction of T cell-related diagnostic models provides a resource for guiding RA immunotherapeutic strategies. [Read more...](#)

56. Evaluation of the Relationship between Acromiohumeral Distance and Supraspinatus Tendon Thickness Measured by Ultrasonography and Rotator Cuff Pathologies, Pain, and Function

04-07-2024 - National Library of Medicine

CONCLUSIONS: We found that AHD and SST thicknesses significantly differed in the NTT, PTT, FTT, and HC groups. This difference may be important for diagnosis. In addition, the effect of obesity on ST thickness and the relationship between ST thickness and functional scores may be considered. Weight control may be effective at this point. [Read more...](#)

57. Measurement properties of the Portuguese version of the rheumatoid arthritis patient-reported experience measure (CQRA-PREM): a cross-sectional single center study

03-07-2024 - National Library of Medicine

CONCLUSIONS: The CQRA-PREM showed acceptable measurement properties and is a useful tool for evaluating quality of healthcare provided in daily practice, as perceived by RA patients in Portugal. [Read more...](#)

58. Epidemiologic Assessment of Craniosynostosis in Mississippi's Pediatric Population from 2015 to 2020

03-07-2024 - National Library of Medicine

CONCLUSIONS: Results from this study suggest regional patterns of CS in Mississippi, which may reflect actual incidence patterns or proximity to Children's of Mississippi. Further study could reveal regional differences in risk factors underlying CS incidence or access to specialized CS care for different regions in the state. This will lead to opportunities for institutional outreach to ... [Read more...](#)

59. Effects of novel lactoferrin peptides on LPS-induced alveolar bone destruction in a rat model

03-07-2024 - National Library of Medicine

To develop novel bovine lactoferrin (bLF) peptides targeting bLF-tumour necrosis factor (TNF) receptor-associated factor 6 (TRAF6) binding sites, we identified two peptides that could target bLF-TRAF6 binding sites using structural analysis. Moreover, another peptide that could bind to the TRAF6 dimerization area was selected from the bLF sequence. The effects of each peptide on cytokine ... [Read more...](#)

60. Risk factors and predictive models for frozen shoulder

02-07-2024 - National Library of Medicine

This study aims to explore the risk factors associated with frozen shoulder (FS) and develop a predictive model for diagnosing FS, in order to facilitate early detection of the condition. A total of 103 patients diagnosed with FS and admitted to the Department of Joint Surgery at Suining Central Hospital between October 2021 and October 2023 were consecutively included in the study. [Read more...](#)

61. Effects of differences in dose and frequency of teriparatide on bone structure in Proximal Femur. - Analysis by DXA-based 3D-modeling (3D-SHAPER Software) -TRIPLE-BONE study (The effects of TeRIParatide preparation on bone mineral density increase and BONE structure)

02-07-2024 - National Library of Medicine

CONCLUSION: Trends toward more favorable improvement of the cortical bone by 1 · 2/W TPTD and that of the trabecular bones by 1/D TPTD were observed. [Read more...](#)

62. Knowledge and awareness about temporomandibular disorder among dentists in India: Questionnaire study and review

01-07-2024 - National Library of Medicine

CONCLUSION: The results of the current survey indicate that Indian dentists lack sufficient training in dental schools on all three sections and face difficulty diagnosing and treating TMDs.

[Read more...](#)

63. Exploring the effects of taurolidine on tumor weight and microvessel density in a murine model of osteosarcoma

01-07-2024 - National Library of Medicine

CONCLUSIONS: In conclusion, there is no evidence of antiangiogenic activity, and the antitumor effects of taurolidine on osteosarcoma observed in this study are limited. Moreover, its toxic profile grants further evaluation. Given these observations, further research is necessary to refine the use of taurolidine in osteosarcoma treatment. [Read more...](#)

64. A Preclinical Model of Sepsis-Induced Myopathy with Disuse in Mice

01-07-2024 - National Library of Medicine

Sepsis is a major cause of in-hospital deaths. Improvements in treatment result in a greater number of sepsis survivors. Approximately 75% of the survivors develop muscle weakness and atrophy, increasing the incidence of hospital readmissions and mortality. However, the available preclinical models of sepsis do not address skeletal muscle disuse, a key component for the development of ... [Read more...](#)

65. Withaferin A alleviates inflammation in animal models of arthritis by inhibiting the NF-kappaB pathway and cytokine release

19-06-2024 - National Library of Medicine

Withaferin A, a steroid lactone from *Withania somnifera*, exhibits anti-inflammatory, immunomodulatory, and antioxidant properties. This study investigated the effects of withaferin A on collagen-induced arthritis (CIA) rats, focusing on NF- κ B p65 regulation and cytokine release. Withaferin A (50 mg/kg b.wt., orally) or methotrexate (0.25 mg/kg b.wt., i.p., as a reference drug) was given to ... [Read more...](#)

66. The synergistic anti-nociceptive effects of nefopam and gabapentinoids in inflammatory, osteoarthritis, and neuropathic pain mouse models

14-06-2024 - National Library of Medicine

Pain is a common public health problem and remains as an unmet medical need. Currently available analgesics usually have limited efficacy or are accompanied by many adverse side effects. To achieve satisfactory pain relief by multimodal analgesia, new combinations of nefopam and gabapentinoids (pregabalin/gabapentin) were designed and assessed in inflammatory, osteoarthritis and neuropathic pain. [Read more...](#)

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