



Musculoskeletal Health Current Awareness Update

01 May 2024

Welcome to the monthly Musculoskeletal Health Current Awareness Update, 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 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.

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Prevention of MSK conditions across the life course

Prevention of MSK conditions across the life course

1. Relationship Between Two Years of Muscle Strength Decrease and Volume Loss of Menisci and Cartilage According to Knee Pain in Mild and Moderate Knee Osteoarthritis

30-04-2024 - National Library of Medicine

CONCLUSION: The study observed a positive correlation between quadriceps strength decrease and medial meniscus degeneration in mild and moderate knee OA patients with WOMAC pain >2. These findings suggested quadriceps-hamstrings balance possibly plays a protective role in knee function for participants with weaker quadriceps and severe pain. [Read more...](#)

2. Boosting treatment outcomes via the patient-practitioner relationship, treatment-beliefs or therapeutic setting. A systematic review with meta-analysis of contextual effects in chronic musculoskeletal pain

30-04-2024 - National Library of Medicine

OBJECTIVE: To ascertain whether manipulating contextual effects (e.g. interaction with patients, or beliefs about treatments) boosted the outcomes of non-pharmacological and non-surgical treatments for chronic primary musculoskeletal pain. DESIGN: Systematic review of randomized controlled trials. DATA SOURCES: We searched for trials in six databases, citation tracking, ... [Read more...](#)

3. Associations between back pain incidence, and physical activity and sedentary behaviours: A prospective cohort study with data from over 365,000 participants

30-04-2024 - National Library of Medicine

OBJECTIVE: To examine the associations between (i) various types of physical activity and the risk of back pain incidence, and (ii) the influence of substituting sedentary behaviours with physical activities on back pain incidence. DESIGN: A prospective cohort study. METHODS: We analyzed UK Biobank data collected from 365,307 participants who were free of back pain at baseline. [Read more...](#)

4. Correction: Development of bioactive and ultrasound-responsive microdroplets for preventing ovariectomy (OVX)-induced osteoporosis

30-04-2024 - National Library of Medicine

Correction for 'Development of bioactive and ultrasound-responsive microdroplets for preventing ovariectomy (OVX)-induced osteoporosis' by Yi Zhang et al., J. Mater. Chem. B, 2023, 11, 11344-11356, <https://doi.org/10.1039/D3TB01726E>. [Read more...](#)

5. Impact of Musculoskeletal Pain on Health-Related Quality of Life Among Adults in Saudi Arabia

29-04-2024 - National Library of Medicine

Background Musculoskeletal pain (MSP) is widely recognized as a prevalent public health issue that affects individuals of various genders and age groups. The aim of this study is to assess the influence of musculoskeletal pain on the quality of life (QoL) of adult individuals living in Saudi Arabia. Method This is a cross-sectional study using an online-administered questionnaire that was ... [Read more...](#)

6. Enlightenment on Knee Flexors Strength Loss in Cases of Posterior Knee Pain After Anterior Cruciate Ligament Reconstruction

29-04-2024 - National Library of Medicine

CONCLUSIONS: Persistent and recurrent PKP during the rehabilitation period were not uncommon and were associated with a worsening of flexors strength loss on the ACLR side. [Read more...](#)

7. Associations between menopause status, spinal-related musculoskeletal variables and gait speed in middle-aged females: A short report

29-04-2024 - National Library of Medicine

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

8. How and why do people with chronic low back pain modify their physical activity? A mixed-methods survey

29-04-2024 - National Library of Medicine

CONCLUSION: The study highlights the role of occupational and educational settings in individual responses to CLBP. The findings also highlight a gap in public awareness regarding effective CLBP management strategies, emphasising the need for increased education and awareness programs. [Read more...](#)

9. Goal setting in people with low back pain attending an education and exercise program (GLA:D Back) and the impact of demographic factors

27-04-2024 - National Library of Medicine

CONCLUSIONS: People with low back pain attending a self-management programme established goals according to the SMART criteria and focused primarily on activity. Goals were similar across countries and

showed few differences across sex and age groups. The high number of different goals points to the need for individualised person-centred care. [Read more...](#)

10. Back Pain in Adolescents and Young Adults with Idiopathic Scoliosis-Identifying Factors Associated with Significant Pain-A Multivariate Logistic Regression Analysis

27-04-2024 - National Library of Medicine

(1) Background: Previous data show that patients with idiopathic scoliosis (IS) can be classified into two groups according to pain intensity. This paper aims to determine which factors can independently predict the likelihood of belonging to a high-level pain group. (2) Methods: The study used a prospective, multicenter, cross-sectional design. Two-hundred and seventy-two patients with IS ... [Read more...](#)

11. Exercise-induced changes in central sensitization outcomes in individuals with chronic musculoskeletal pain: A systematic review with meta-analysis

25-04-2024 - National Library of Medicine

CONCLUSIONS: We did not find an overall effect of physical exercise on TSP and CPM. However, subgroup analysis shows favourable effects of motor control exercise in individuals with chronic neck pain. Future research should focus on exercise modality and dosage and their role in the mechanism involved in TSP and CPM in predefined populations. [Read more...](#)

12. Evaluation of the effect of corrective exercise intervention on musculoskeletal disorders, fatigue and working memory of office workers

24-04-2024 - National Library of Medicine

Objectives: The present study aimed to investigate the effect of corrective exercise intervention (corrective exercise reminding and training software) on musculoskeletal disorders (MSDs), fatigue, posture and working memory among office workers. Methods: A total of 66 office workers participated in the present study. Data collection was carried out using questionnaires (including the Nordic ... [Read more...](#)

13. Improved Resolution and Image Quality of Musculoskeletal Magnetic Resonance Imaging using Deep Learning-based Denoising Reconstruction: A Prospective Clinical Study

23-04-2024 - National Library of Medicine

CONCLUSION: This prospective clinical evaluation demonstrated that DLR allows approximately two times finer resolution and improved image quality compared to the standard-of-care images. [Read more...](#)

14. Long-term impact of self-compassion training with core stability exercise on patients with nonspecific chronic low back pain: A randomized controlled trial

21-04-2024 - National Library of Medicine

CONCLUSION: The addition of self-compassion therapy enhances the long-term efficacy of core stability training for NCLBP (Preregistered at chictr.org.cn/ChiCTR2100042810). [Read more...](#)

15. Service evaluation: Three subjective questions that aid in identifying frozen shoulder-Within a multi-centre musculoskeletal physiotherapy department in primary care

21-04-2024 - National Library of Medicine

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

16. Effectiveness of a classification-based approach to low back pain in primary care - a benchmarking controlled trial

21-04-2024 - National Library of Medicine

OBJECTIVE: The aim of this study was to assess the effectiveness of classification-based approach for low back pain care in Finnish primary care. [Read more...](#)

17. Influence of frailty status on the health-related quality of life in older patients with chronic low back pain: a retrospective observational study

20-04-2024 - National Library of Medicine

CONCLUSIONS: A significant association exists between frailty and reduced HRQoL in patients with chronic low back pain. This association was predominant in female patients. Furthermore, considering the dynamic nature of frailty, early detection and effective interventions targeting pre-frailty are essential to delaying the transition to full frailty and improving HRQoL. [Read more...](#)

18. Online resources for osteoporosis awareness and prevention

19-04-2024 - National Library of Medicine

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

19. Improving Osteoporosis Prediction Using Vertebral Bone Quality Score and Paravertebral Muscle Measurements From Lumbar MRI Scans

19-04-2024 - National Library of Medicine

CONCLUSIONS: The combination of VBQ score and paravertebral muscle measurements enhances the accuracy of predicting individuals with low total hip T-scores. Lumbar MRI scans provide valuable information beyond opportunistic osteoporosis screening, and the inclusion of paravertebral muscle measurements could aid in identifying at-risk individuals more accurately. [Read more...](#)

20. Developing and assessing the measurement properties of an instrument to assess the impact of musculoskeletal pain in children aged 9 to 12-the pediatric musculoskeletal pain impact summary score

18-04-2024 - National Library of Medicine

CONCLUSION: The Pediatric MSK Pain Impact summary showed limited internal consistency and construct validity however, it can discriminate between children with frequent and infrequent pain. The results are promising for clinical and research practices as it is a short and convenient tool to be used in school-aged children. [Read more...](#)

21. Barriers and enablers to exercise adherence in people with nonspecific chronic low back pain: a systematic review of qualitative evidence

18-04-2024 - National Library of Medicine

Exercise is a first-line treatment for chronic low back pain (CLBP), reducing pain and disability in the short term. However, exercise benefits decrease over time, with a lack of long-term exercise adherence a potential reason for this. This study aimed to synthesize the perceptions and beliefs of individuals with CLBP and identify their barriers and enablers to exercise adherence. [Read more...](#)

22. Videoconference-Supervised Group Exercise Reduces Low Back Pain in Eldercare Workers: Results from the ReViEEW Randomised Controlled Trial

17-04-2024 - National Library of Medicine

CONCLUSIONS: The intervention was effective for reducing the low back and hand/wrist pain of eldercare workers and increasing upper limb muscle performance. The per-protocol analysis showed additional benefits in psycho-affective parameters, medication consumption and muscle performance. [Read more...](#)

23. The smallest worthwhile effect on pain intensity of exercise therapy for people with chronic low back pain: a discrete choice experiment study

17-04-2024 - National Library of Medicine

OBJECTIVE: To identify the smallest worthwhile effect (SWE) of exercise therapy for people with non-specific chronic low back pain (CLBP). DESIGN: Discrete choice experiment. METHODS: The SWE was estimated as the lowest reduction in pain that participants would consider exercising worthwhile, compared to not exercising i.e., effects due to natural history and other components (e.g. [Read more...](#)

24. Vascular endothelial cells-derived exosomes synergize with curcumin to prevent osteoporosis development

16-04-2024 - National Library of Medicine

Osteoporosis has gradually become a major public health problem. Further elucidation of the pathophysiological mechanisms that induce osteoporosis and identification of more effective therapeutic targets will have important clinical significance. Experiments in vitro on bone marrow stem cells (BMSCs) subjected to osteogenic and adipogenic differentiation and in vivo on surgical bilateral ... [Read more...](#)

25. A narrative synthesis of the effectiveness and acceptability of musculoskeletal first contact physiotherapy practitioner roles in primary care

16-04-2024 - National Library of Medicine

CONCLUSION: Although the review identified consistent positivity relating to effectiveness, satisfaction and acceptability across the reviewed publications, conclusions are limited due to the relatively recent introduction of the FCP role leading to limited availability of relevant publications. [Read more...](#)

26. Clinical and Economic Outcomes of Patients with Osteoporosis Undergoing Spine Fusion Surgery in Japan

15-04-2024 - National Library of Medicine

CONCLUSIONS: Patients with osteoporosis and those needing additional fixation methods have a higher risk for procedural and postoperative complications, reoperation, longer LOS, and higher total hospital costs. [Read more...](#)

27. The cost-effectiveness of osteoporosis medications for preventing periprosthetic fractures following femoral neck fracture indicated hip arthroplasty: a break-even analysis

15-04-2024 - National Library of Medicine

CONCLUSION: The utilization of lower cost osteoporosis medications such as oral bisphosphonates and estrogen hormonal therapy as PPF prophylaxis in this patient population would be economically viable if they reduce the PPF rate by 1.8% and 1.5%, respectively. For IV bisphosphonates and newer agents to be economically viable as PPF prophylaxis in the USA, their costs need to be significantly ... [Read more...](#)

28. Assessing the quality and reliability of YouTube videos as a source of information on inflammatory back pain

15-04-2024 - National Library of Medicine

CONCLUSION: The results of the present study showed that YouTube offers videos of low reliability and low quality on inflammatory back pain. Health authorities have a responsibility to protect public health and should take proactive steps regarding health information shared on social media platforms. [Read more...](#)

29. Evaluating the comparability of osteoporosis treatments using propensity score and negative control outcome methods in UK and Denmark electronic health record databases

15-04-2024 - National Library of Medicine

Evidence on the comparative effectiveness of osteoporosis treatments is heterogeneous. This may be attributed to different populations and clinical practice, but also to differing methodologies ensuring comparability of treatment groups before treatment effect estimation and the amount of residual confounding by indication. This study assessed the comparability of denosumab vs oral ... [Read more...](#)

30. Reliability and measurement error of exercise-induced hypoalgesia in pain-free adults and adults with musculoskeletal pain: A systematic review

15-04-2024 - National Library of Medicine

CONCLUSIONS: We concluded, with a very low level of certainty, that the reliability and measurement error of EIH is, in pain-free adults, respectively, "insufficient" and "indeterminate." Future studies should focus on people with MSK pain and could consider using tailored exercises, other test modalities than pressure pain threshold, rater/assessor blinding, ... [Read more...](#)

31. Unveiling the Efficacy of Physiotherapy Strategies in Alleviating Low Back Pain: A Comprehensive Review of Interventions and Outcomes

12-04-2024 - National Library of Medicine

Low back pain (LBP) presents a significant burden globally, affecting individuals of all ages, but it is more common in adults aged 30-60 years old and demographics including race, ethnicity, and socioeconomic status. Physiotherapy interventions are commonly employed to manage LBP due to their non-invasive nature and potential for addressing underlying biomechanical dysfunctions. [Read more...](#)

32. Effects of anti-osteoporosis treatment in elderly patients with osteoporosis and lumbar discectomy and fusion

12-04-2024 - National Library of Medicine

CONCLUSION: In elderly patients with LIF and osteoporosis, anti-osteoporosis therapy could reduce bone resorption and thus facilitate fusion. Anti-osteoporosis medication tends to enhance radiological, functional, and fusion short-term outcomes. [Read more...](#)

33. Pilot study of musculoskeletal pain in ophthalmologists following participation in a fifteen-minute online lyengar yoga program

11-04-2024 - National Library of Medicine

CONCLUSIONS: Among our small group of survey respondents, a fifteen-minute lyengar yoga video program specifically designed for ophthalmologists reduced MSK pain and improving awareness of proper ergonomics for practicing ophthalmologists. [Read more...](#)

34. Comparison of Delphi Consensus Criteria and Musculoskeletal Infection Society Outcome Reporting Tool (MSIS-ORT) Definitions of Successful Surgical Treatment of Periprosthetic Knee Infection

11-04-2024 - National Library of Medicine

CONCLUSIONS: Study observations underscore the need for a uniformly accepted single definition of surgical treatment success. [Read more...](#)

35. Hip Arthroscopy Patients with Lower Back Pain Show Delayed Clinical Improvement and Inferior Time-Dependent Survivorship: A Propensity Matched Study at Mid-Term Follow-Up

11-04-2024 - National Library of Medicine

CONCLUSIONS: Patients undergoing primary hip arthroscopy for femoroacetabular impingement syndrome with LBP achieve comparable PROs and CSOs to patients without back pain at mid-term, despite lower 1-year PRO scores. LBP patients show inferior reoperation-free time-dependent survivorship compared to those without LBP. [Read more...](#)

36. Booster visits in the management of the acute musculoskeletal injuries: Transforming care to improve outcomes-A perspective review

10-04-2024 - National Library of Medicine

The current healthcare delivery system for patients with acute musculoskeletal injury is failing. Current rehabilitation management of acute musculoskeletal injury typically includes physical therapy, focused on management of impairments, with an eventual transition to functional activities and release to prior level of function. At that point, formal physical therapy is often discontinued, ... [Read more...](#)

37. Effect of Denosumab on Bone Health, Vascular Calcification, and Health-Related Quality of Life in Hemodialysis Patients with Osteoporosis: A Prospective Observational Study

09-04-2024 - National Library of Medicine

Background: Osteoporosis is common in hemodialysis (HD) patients, contributing to cardiovascular risks. Limited research exists on denosumab's efficacy in this group. Our study explores denosumab's effects on

bone turnover markers (BTMs) and vascular calcification in chronic kidney disease-mineral bone disorder (CKD-MBD) patients. Methods: In a prospective single-center study, ... [Read more...](#)

38. The Yoga Brain Connection: A Neuroscientific Approach to Chronic Back Pain Management

08-04-2024 - National Library of Medicine

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

39. Platelet-Rich Plasma in the Management of Temporomandibular Joint Pain in Young Adults With Temporomandibular Disorder

08-04-2024 - National Library of Medicine

CONCLUSIONS: This study provides evidence supporting the efficacy of PRP in reducing TMJ pain, improving jaw function, and improving quality of life in young adults with mild TMD. The results underscore the potential of PRP as a minimally invasive intervention for TMJ disorders. [Read more...](#)

40. Musculoskeletal symptoms in systemic lupus erythematosus patients and their impact on health-related quality of life

08-04-2024 - National Library of Medicine

CONCLUSION: SLE patients have a high MSK burden, and MSK symptoms have a negative impact on HRQoL in these patients. [Read more...](#)

41. Geriatric nutritional risk index as a predictor for fragility fracture risk in elderly with type 2 diabetes mellitus: A 9-year ambispective longitudinal cohort study

07-04-2024 - National Library of Medicine

CONCLUSION: This study confirms for the first time that GNRI is negatively related to a fragility fracture and the 10-year probability of osteoporotic fragility fractures assessed by FRAX in an inverse S-shaped and Z-shaped dose-dependent pattern in elderly with T2DM, respectively. GNRI may serve as a valuable predictor for fragility fracture risk in elderly with T2DM. [Read more...](#)

42. The correlation of trust as part of the therapeutic alliance in physical therapy and their relation to outcomes for patients with chronic low back pain

05-04-2024 - National Library of Medicine

CONCLUSION: There appears to be a connection between trust and therapeutic alliance along with improved patient outcomes related to higher trust and therapeutic alliance scores in a cohort with chronic low back pain. [Read more...](#)

43. Effectiveness of Interventions on Work Outcomes After Road Traffic Crash-Related Musculoskeletal Injuries: A Systematic Review and Meta-analysis

05-04-2024 - National Library of Medicine

BACKGROUND: Musculoskeletal injuries are common after road traffic crash (RTC) and can lead to poor work-related outcomes. This review evaluated the impact of interventions on work-related (e.g. sick leave), health, and functional outcomes in individuals with a RTC-related musculoskeletal injury, and explored what factors were associated with work-related outcomes. [Read more...](#)

44. Protective role of exercise on breast cancer-related osteoporosis in women undergoing aromatase inhibitors: A narrative review

05-04-2024 - National Library of Medicine

Hormone therapy following surgery reduces the risk of breast cancer (BC) recurrence and progression of hormone-sensitive BC, especially in postmenopausal women. Despite the antitumor efficacy of hormone therapy, particularly of aromatase inhibitors, they cause long-term side effects, mainly bone density reduction. Exercise can slow the rate of bone loss, which reduces the risk of fractures ... [Read more...](#)

45. Utilisation and experience of emergency medical services by patients with back pain: A scoping review

04-04-2024 - National Library of Medicine

CONCLUSIONS: Back pain is a common reason for EMS presentation. Whilst non-specific back pain is the most common diagnosis further research to support the recognition and care of serious cases would be beneficial. [Read more...](#)

46. Influence of short bouts of stair climbing on young adults during prolonged sitting on posture, discomfort, and musculoskeletal performance outcomes: a counterbalanced pilot randomised crossover trial

04-04-2024 - National Library of Medicine

Prolonged sitting is postulated to influence musculoskeletal performance (cervical flexor endurance, balance, and agility), discomfort and alter cervical spine angles during work-based computer use. Stair climbing breaks may be a great addition at typical and home offices however remain unexplored for its impact on musculoskeletal performance. In our counterbalanced pilot crossover trial, ... [Read more...](#)

47. The prevalence, incidence and management of low back pain with radiating leg pain in Dutch general practice: A population-based cohort study in the Rijnmond Primary Care Database

04-04-2024 - National Library of Medicine

CONCLUSION: LBP with radiating leg pain is common in Dutch general practice patients. About 2/3rd were prescribed pain medications. Dutch request few to none diagnostic imaging for these patients which is in line with clinical practice guidelines. [Read more...](#)

48. Acetaminophen influences musculoskeletal signaling but not adaptations to endurance exercise training

03-04-2024 - National Library of Medicine

Acetaminophen (ACE) is a widely used analgesic and antipyretic drug with various applications, from pain relief to fever reduction. Recent studies have reported equivocal effects of habitual ACE intake on exercise performance, muscle growth, and risks to bone health. Thus, this study aimed to assess the impact of a 6-week, low-dose ACE regimen on muscle and bone adaptations in exercising and ... [Read more...](#)

49. Association of Muscle Strength, Psychological Factors, and Central Sensitization With Movement-Evoked Pain in Patients With Nonspecific Chronic Low Back Pain: The BACKFIT Project

03-04-2024 - National Library of Medicine

CONCLUSION: Greater MEP was observed after tests measuring core musculature strength than after tests measuring distal (limbs) strength and agility. Greater MEP was overall associated with lower muscle strength, greater pain catastrophizing, and central sensitization. [Read more...](#)

50. Health risk assessment and prevalence of work-related musculoskeletal disorders among the aged brick molders, in India

03-04-2024 - National Library of Medicine

The Brickfield Industry is the major and oldest informal industry in India, where millions of brickfield workers make their livelihood. Aged brickfield workers are also involved in different activities in the brickfield, especially in brick mold activities owing to poor socioeconomic conditions. A cross-sectional study was designed to determine the prevalence of work-related musculoskeletal ... [Read more...](#)

51. The Dutch multidisciplinary guideline osteoporosis and fracture prevention, taking a local guideline to the international arena

02-04-2024 - National Library of Medicine

CONCLUSION: In our new multidisciplinary guideline osteoporosis and fracture prevention, we developed 5 "relatively new statements" that are all a crucial step forward in the optimization of diagnosis and treatment for fracture prevention. We also developed 5 flowcharts, and we suppose that this may be helpful for individual doctors and their patients in daily practice and may facilitate ... [Read more...](#)

52. Salivary nitrate prevents osteoporosis via regulating bone marrow mesenchymal stem cells proliferation and differentiation

02-04-2024 - National Library of Medicine

CONCLUSION: The present results showed saliva nitrate preventively protects against osteoporosis through enhances the proliferation and osteogenic differentiation potential of BMSCs. The effects of nitrate on bone homeostasis are closely related to the EGFR/AKT/ERK and mTOR/S6K signaling axes. [Read more...](#)

53. Investigating the effect of education based on PRECEDE-PROCEED model on the preventive behaviors of musculoskeletal disorders in a group of nurses

02-04-2024 - National Library of Medicine

CONCLUSION: In the current study, education based on the PRECEDE-PROCEED model led to the improvement of knowledge, attitude, enabling and reinforcing factors, self-efficacy, and finally preventive behaviors with musculoskeletal disorders in the participants. Considering the importance of the role of health education in promoting behaviors related to musculoskeletal disorders in nurses and ... [Read more...](#)

54. Efficacy of Integrated Yoga and Naturopathy With Physiotherapy or Acupuncture for Low Back Pain: A Parallel, Two-Arm, Randomized Trial

01-04-2024 - National Library of Medicine

CONCLUSION: The present study findings revealed that both physiotherapy and acupuncture, as interventions along with integrated yoga and naturopathy may be considered an effective treatment strategy for chronic LBP. [Read more...](#)

55. A Study of 60 Patients with Low Back Pain to Compare Outcomes Following Magnetotherapy, Ultrasound, Laser, and Electrotherapy with and without Lumbosacral Kinesiotherapy

01-04-2024 - National Library of Medicine

BACKGROUND This study of 60 patients with low back pain (LBP) aimed to compare outcomes following magnetotherapy, ultrasound therapy, laser therapy, and electrotherapy, with and without lumbosacral kinesiotherapy, and used the Roland-Morris Disability Questionnaire (RMDQ) and the Oswestry Low Back Pain Disability Questionnaire (OLBPDQ). This was a randomized actively controlled intervention ... [Read more...](#)

56. Bone quality in zebrafish vertebrae improves after alendronate administration in a glucocorticoid-induced osteoporosis model

31-03-2024 - National Library of Medicine

Glucocorticoid-induced osteoporosis (GIOP) changes the microarchitecture of bones and often leads to the reduction of bone-mineral density (BMD) and increased fracture rates. Zebrafish has been used as an alternative model for GIOP, however, the interaction of GIOP, and its treatment, with zebrafish bone morphometrics and mechanical properties, remains a challenge. [Read more...](#)

57. Combined musculoskeletal finite element modeling of femur stress during reactive balance training

31-03-2024 - National Library of Medicine

The purpose of this study was to determine the material stresses experienced in the femoral neck during the stepping phase of recovery from a forward loss of balance achieved both using release from a static

forward lean and rapid treadmill accelerations in 8 older adults. A scalable musculoskeletal model with 23 degrees of freedom and 92 force actuators was used to calculate joint reaction ... [Read more...](#)

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Living well with MSK conditions

Living well with MSK conditions

1. Integrating intra- and interpersonal perspectives on chronic low back pain: the role of emotion regulation and attachment insecurity

29-04-2024 - National Library of Medicine

CONCLUSION: Our study shows that anxious attachment may be an interpersonal risk factor related to CLBP, above and beyond intrapersonal ERs, as anxious attachment was associated with higher levels of pain interference. Furthermore, emotional expression was associated with increased CLBP severity and interference, particularly among individuals at low and medium levels of avoidant attachment. [Read more...](#)

2. Does MRI alter management in patients 60 years and older with chronic knee pain: correlation with radiographs and clinical parameters

29-04-2024 - National Library of Medicine

CONCLUSION: In patients ≥ 60 years old with chronic knee pain, MRI altered management in $\sim 24\%$ of cases 70% in patients with KL grade 0-1, and none in patients with KL grade 4. MRI may benefit older patients with minimal osteoarthritis but not those with end-stage disease. Patients with ≥ 10 pack years of smoking may also benefit from MRI. [Read more...](#)

3. Qualitative findings from a randomized trial of mindfulness-based and cognitive-behavioral group therapy for opioid-treated chronic low back pain

29-04-2024 - National Library of Medicine

This article reports qualitative outcomes from a randomized controlled trial comparing eight weeks of cognitive-behavioral group therapy for chronic pain (CBT-CP) and mindfulness-based group therapy (MBT) in individuals with chronic low back pain (CLBP). Approximately 10 months post-treatment, 108 participants completed structured qualitative interviews to express how the study treatment ... [Read more...](#)

4. An Emergency Department-based system intervention to improve osteoporosis screening for older adults at high-risk of fracture

29-04-2024 - National Library of Medicine

Falls and osteoporosis are risk factors for fragility fractures. Bone mineral density (BMD) assessment is associated with better preventative osteoporosis care, but it is underutilized by those at high fracture risk. We created a novel electronic medical record (EMR) alert-driven protocol to screen patients in the Emergency Department (ED) for fracture risk and tested its feasibility and ... [Read more...](#)

5. Altered Cortical Thickness and Structural Covariance Networks in Chronic Low Back Pain

28-04-2024 - National Library of Medicine

CONCLUSIONS: From the regional cortical thickness to the complex brain network level, our study demonstrated changes in the cortical thickness and topological properties of the SCNs in patients with CLBP, thus aiding in a better understanding of the pathophysiological mechanisms of CLBP. [Read more...](#)

6. Discovery of the small molecular inhibitors against sclerostin loop3 as potential anti-osteoporosis agents by structural based virtual screening and molecular design

27-04-2024 - National Library of Medicine

Sclerostin is a secreted glycoprotein that expresses predominantly in osteocytes and inhibits bone formation by antagonizing the Wnt/ β -catenin signaling pathway, and the loop3 region of sclerostin has recently discovered as a novel therapeutic target for bone anabolic treatment without increasing cardiovascular risk. Herein, we used a structural based virtual screening to search for small ... [Read more...](#)

7. Fracture Risk Assessment Tool-Based Screening for Osteoporosis in Older Adults in Resource-Limited Settings

27-04-2024 - National Library of Medicine

CONCLUSION: The 10-year FRAX® probability for hip fracture estimated without BMD emerges as an effective 10-year screening tool for identifying osteoporosis risk in aged 50 and older, especially when confronted with limited access to DXA scans in LMICs. [Read more...](#)

8. Effects of Manual Therapy Plus Pain Neuroscience Education with Integrated Motivational Interviewing in Individuals with Chronic Non-Specific Low Back Pain: A Randomized Clinical Trial Study

27-04-2024 - National Library of Medicine

Background and Objectives: Chronic non-specific low back pain (CNLBP) persists beyond 12 weeks. Manual therapy recommended for CNLBP demonstrates short-term efficacy. Pain Neuroscience Education (PNE) teaches patients to modify pain perception through explanations, metaphors, and examples, targeting brain re-education. Motivational Interviewing (MI) enhances motivation for behavioral change, ... [Read more...](#)

9. Bone mineral density as a surrogate endpoint for fracture risk reduction in clinical trials of osteoporosis therapies: an update on SABRE

27-04-2024 - National Library of Medicine

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

10. Can the Mismatch of Measured Pelvic Morphology vs. Lumbar Lordosis Predict Chronic Low Back Pain Patients?

27-04-2024 - National Library of Medicine

Background: Measures of lumbar lordosis (LL) and elliptical modeling variables have been shown to discriminate between normal and chronic low back pain (CLBP) patients. Pelvic morphology influences an individual's sagittal lumbar alignment. Our purpose is to investigate the sensitivity and specificity of lumbar sagittal radiographic alignment and modeling variables to identify if these can ... [Read more...](#)

11. Risk factors for low back pain in the Chinese population: a systematic review and meta-analysis

26-04-2024 - National Library of Medicine

CONCLUSIONS: This study found that smoking, a BMI ≥ 28 kg/m², female sex, vibration exposure at work, working overtime, and lack of exercise may be risk factors for LBP in the Chinese population. Because the included studies were cross-sectional and the certainty of the evidence was very low, the results need to be interpreted cautiously. Multicentre, high-quality studies should be conducted ... [Read more...](#)

12. Protocol for lower back pain management: Insights from the French healthcare system

25-04-2024 - National Library of Medicine

In this editorial we comment on the article published in a recent issue of the World Journal of Clinical Cases. This article described a novel ultrasound-guided lateral recess block approach in treating a patient with lateral recess stenosis. The impact of spinal pain-related disability extends significantly, causing substantial human suffering and medical costs. [Read more...](#)

13. Investigating and analyzing the current situation and factors influencing chronic neck, shoulder, and lumbar back pain among medical personnel after the epidemic

23-04-2024 - National Library of Medicine

CONCLUSION: The incidence of chronic neck, shoulder, and lumbar back pain among medical staff is high its influencing factors are different and have not been systematically identified. Hospitals should take effective measures tailored to local conditions to improve the physical and mental health of medical staff.

[Read more...](#)

14. Thoracolumbar fascia and chronic low back pain in idiopathic lumbar scoliosis: an ultrasonographic study

23-04-2024 - National Library of Medicine

CONCLUSIONS: Thickening of the TLF was observed in IS, whereby, in the presence of CLBP, it was further intensified. We suggest considering fascial thickening as a potential contributing factor to both pain and limited motion in relevant patients. [Read more...](#)

15. Evaluation of the effect of different kinds of treatment modalities for temporomandibular joint pain and its relevance to chronic cervical pain: A randomized controlled trial

23-04-2024 - National Library of Medicine

CONCLUSION: TENS and LLL were found to be equally effective in reducing pain in the jaw joint region, followed by soft splints, and there was no correlation between TMJ and cervical pain. [Read more...](#)

16. Comment on 'comparative effectiveness of nonpharmacological interventions in reducing psychological symptoms among patients with chronic low back pain'

23-04-2024 - National Library of Medicine

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

17. Identification of osteoporosis ferroptosis-related markers and potential therapeutic compounds based on bioinformatics methods and molecular docking technology

22-04-2024 - National Library of Medicine

CONCLUSION: This study identified five key ferroptosis genes (CP, FLT3, HAMP, HMOX1, and SLC2A3), they were most likely related to OP ferroptosis. In addition, we found that the small molecule compounds of NADH, Midostaurin, and Nintedanib had good docking scores with these five key ferroptosis genes. These findings may provide new clues for the early diagnosis and treatment of osteoporosis ... [Read more...](#)

18. Development and validation of a nomogram to predict the risk of residual low back pain after tubular microdiscectomy of lumbar disk herniation

22-04-2024 - National Library of Medicine

CONCLUSION: This nomogram including preoperative LBP VAS score, FO, FJD and MFA can serve a promising prediction model, which will provide a reference for clinicians to predict the rLBP after tMD. [Read more...](#)

19. Design of the COMEBACK and BACKHOME Studies, Longitudinal Cohorts for Comprehensive Deep Phenotyping of Adults with Chronic Low-Back Pain (cLBP): a part of the BACPAC Research Program

22-04-2024 - National Library of Medicine

CONCLUSIONS: These 2 pivotal studies, in conjunction with the ancillary studies being performed in both comeBACK and BACKHOME, and the other BACPAC-consortium research projects, we will be able to address a number of diagnostic and therapeutic issues in this complex and diverse patient population with cLBP. These studies will help clarify biopsychosocial mechanisms of cLBP with the aim to ... [Read more...](#)

20. Effects of different treatments on pain, functional disability, position sense and range of motion in elite bodybuilders with chronic low back pain

22-04-2024 - National Library of Medicine

Back pain is one of the major global challenges and is one of the most prevalent musculoskeletal disorders occurring in 80% of people at least once in their lifetime. Therefore, the need to find appropriate treatment methods for this issue is very important. The objective is to examine the short-term and acute effects of a treatment session with dry needling, massage therapy, ... [Read more...](#)

21. Ten-year follow-up of fracture risk in a systematic population-based screening program: the risk-stratified osteoporosis strategy evaluation (ROSE) randomised trial

19-04-2024 - National Library of Medicine

BACKGROUND: Osteoporotic fractures pose a growing public health concern. Osteoporosis is underdiagnosed and undertreated, highlighting the necessity of systematic screening programs. We aimed to evaluate the effectiveness of a two-step population-based osteoporotic screening program. [Read more...](#)

22. Clinical efficacy of acupuncture therapy combined with core muscle exercises in treating patients with chronic nonspecific low back pain: a systematic review and meta-analysis of randomized controlled trials

19-04-2024 - National Library of Medicine

INTRODUCTION: This meta-analysis aimed to determine the clinical efficacy of acupuncture combined with core muscle exercises on pain and functional status in patients with chronic nonspecific low back pain. [Read more...](#)

23. Alternative models to support weight loss in chronic musculoskeletal conditions: effectiveness of a physiotherapist-delivered intensive diet programme for knee osteoarthritis, the POWER randomised controlled trial

18-04-2024 - National Library of Medicine

CONCLUSION: A VLED delivered by physiotherapists achieved clinically relevant weight loss and was safe for people with knee OA who were overweight or obese. The results have potential implications for future service models of care for OA and obesity. [Read more...](#)

24. Predictors of success of pharmacological management in patients with chronic lower back pain: systematic review

18-04-2024 - National Library of Medicine

CONCLUSION: Older age, higher BMI, presence of comorbidities, higher ODI and a long history of symptoms or surgical treatments do not reduce the efficacy of pharmacological management of chronic LBP. However, pharmacological therapy is not an effective option for patients with high baseline RMQ. [Read more...](#)

25. Genetically determined type 1 diabetes mellitus and risk of osteoporosis

18-04-2024 - National Library of Medicine

CONCLUSIONS: This study shows a causal relationship between T1DM and the risk of some sites of OP (FN-BMD, LS-BMD), allowing for continued research to discover the clinical and experimental mechanisms of T1DM and OP. It also contributes to the recommendation if patients with T1DM need targeted care to promote bone health and timely prevention of osteoporosis. [Read more...](#)

26. FRAX predicts cardiovascular risk in women undergoing osteoporosis screening: the Manitoba bone mineral density registry

17-04-2024 - National Library of Medicine

Osteoporosis and cardiovascular disease (CVD) are highly prevalent in older women, with increasing evidence for shared risk factors and pathogenesis. Although FRAX was developed for the assessment of

fracture risk, we hypothesized that it might also provide information on CVD risk. To test the ability of the FRAX tool and FRAX-defined risk factors to predict incident CVD in women undergoing ... [Read more...](#)

27. Diagnosis and therapeutic decisions of osteoporosis in chronic kidney disease

17-04-2024 - National Library of Medicine

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

28. Chronic Obstructive Pulmonary Disease and Osteoporosis: A Two-Sample Mendelian Randomization Analysis

16-04-2024 - National Library of Medicine

CONCLUSION: The Mendelian randomization analysis showed a significant detrimental effect of COPD on the risk of osteoporosis. [Read more...](#)

29. Rehabilitation interventions delivered via telehealth to support self-management of rheumatic and musculoskeletal diseases: A scoping review protocol

16-04-2024 - National Library of Medicine

BACKGROUND: Telerehabilitation is a term to describe rehabilitation services delivered via information and communication technology. Such services are an increasingly important component for the management of rheumatic and musculoskeletal diseases (RMDs). Telerehabilitation has the potential to expand the long-term self-management options for individuals with RMDs, improve symptoms, ... [Read more...](#)

30. Fully automated deep learning system for osteoporosis screening using chest computed tomography images

15-04-2024 - National Library of Medicine

CONCLUSIONS: The state-of-the-art DL framework model offers an effective and efficient approach for opportunistic osteoporosis screening using chest CT, without incurring additional costs or radiation exposure. [Read more...](#)

31. "Navigating chaos": Urban, Rural, and Remote Patient Experiences in Accessing Healthcare with Indigenous and Non-Indigenous Perspectives of Living with Chronic Low Back Pain

15-04-2024 - National Library of Medicine

CONCLUSION: Participants identified a range of challenges and facilitators as well as recommendations for improving access to care for chronic low back pain, with unique barriers for rural, remote, and Indigenous participants. [Read more...](#)

32. The prevalence and associated risk factors of osteoporosis in hiv positive postmenopausal women on combined antiretroviral therapy

13-04-2024 - National Library of Medicine

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

33. Effects of Pain Neuroscience Education and Physiotherapy on Chronic Low Back Pain, Fear of Movement and Functional Status: A Randomised Pilot Study

13-04-2024 - National Library of Medicine

Background: Chronic non-specific low back pain is a non-harmous condition often found in the general population. It is one of the most significant disabilities and needs different treatment modalities. This study investigates the effects of pain neuroscience education and physiotherapy on pain intensity, fear of movement and functional status in a Lithuanian cohort with non-specific low back pain. [Read more...](#)

34. Impaired Carbohydrate Metabolism among Women with Chronic Low Back Pain and the Role of Dietary Carbohydrates: A Randomized Controlled Cross-Over Experiment

13-04-2024 - National Library of Medicine

Background: Impaired glucose regulation is suggested to be related to chronic low back pain (CLBP), although it is not clear how they interact with each other. Thus, the primary aim of this study was to investigate differences in postprandial glycemic responses (PPGRs) (the first sign of impaired glucose metabolism) to high- (sucrose) and low-glycemic index (GI) (isomaltulose) beverages in ... [Read more...](#)

35. Different montages of transcranial direct current stimulation on postural stability in chronic low back pain patients: A randomized sham-controlled study

12-04-2024 - National Library of Medicine

CONCLUSION: Based on the results, both a-tDCS and c-tDCS over the DLPFC had positive effects on postural control during cognitive postural tasks in CLBP patients with HPA. [Read more...](#)

36. Altered volume of the amygdala subregions in patients with chronic low back pain

12-04-2024 - National Library of Medicine

CONCLUSION: Our study suggests that the left Ce and left Co may be involved in the pathophysiological processes of CLBP. Moreover, the volume of the left Ce may be a biomarker for detecting the risk of CLBP. [Read more...](#)

37. Relationship between onset of trunk muscle activities and pelvic kinematics in individuals with and without chronic low back pain

12-04-2024 - National Library of Medicine

CONCLUSION: The results suggest that pelvic kinematics during prone hip extension does not predict the delayed trunk muscle onset in patients with CLBP. [Read more...](#)

38. The effects of telehealth-delivered mindfulness meditation, cognitive therapy, and behavioral activation for chronic low back pain: a randomized clinical trial

12-04-2024 - National Library of Medicine

CONCLUSIONS: The findings from this trial, one of the largest telehealth trials of psychological treatments to date, critically determined that group, videoconference-delivered CT, BA, and MM are effective for CLBP and can be implemented in clinical practice to improve treatment access. The pattern of results demonstrated similar improvements across treatments and outcome domains, ... [Read more...](#)

39. Update on Musculoskeletal Pain Management

12-04-2024 - National Library of Medicine

Pain is the most common complaint reported to orthopedists in the outpatient clinic, emergency room, or booth. Numerous publications report the inadequate management of both acute and chronic pain by health professionals. This updated article aims to provide information about musculoskeletal pain, its classification, evaluation, diagnosis, and the multimodal therapeutic approach for each case. [Read more...](#)

40. The Fremantle Back Awareness Questionnaire: cross-cultural adaptation, reliability, and validity of the Italian version in people with chronic low back pain

11-04-2024 - National Library of Medicine

CONCLUSION: The FreBAQ-I was found to be a unidimensional, valid, and reliable outcome measure in Italians with chronic LBP. Its application is advised for clinical and research use within the Italian speaking community. [Read more...](#)

41. Time trends in the burden of low back pain and its associated risk factors in China from 1990 to 2019

11-04-2024 - National Library of Medicine

CONCLUSIONS: Our results provided strong evidence that there were diverse changing patterns for different risk factors, highlighting the need for risk-specific strategies. [Read more...](#)

42. Does an alternative breast support garment provide symptomatic relief for larger breasted women with chronic non-specific back pain?

10-04-2024 - National Library of Medicine

CONCLUSIONS: Symptomatic relief may be associated with the resting position of the breast tissue on the anterior chest wall. The alternative bra may provide potential clinical benefit if implemented as part of a nonsurgical or conservative pain management strategy. Alternative breast support garments should be considered to provide solutions to the problems associated with traditional bras. [Read more...](#)

43. Unsupervised mobility and motion assessment in neuromuscular and musculoskeletal disorders using mobile health technology

09-04-2024 - National Library of Medicine

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

44. Prognostic Power of Foot Mobility in Identifying the Risk of Musculoskeletal Injuries: A Cross-Sectional Study of Male Volleyball Players at Different Competitive Levels

09-04-2024 - National Library of Medicine

(1) Background: The arch structure and mobility of the foot are considered injury risk factors in volleyball. However, there are limited studies presenting differences in injury prevalence and the risk of lower limb injuries in relation to the competitive level in male volleyball. Therefore, the main aim of the current study was to evaluate foot mobility (through navicular drop test) as an ... [Read more...](#)

45. Incidence of sick leave and disability pension in adults with musculoskeletal pain and co-occurring long-term conditions: data from the Norwegian HUNT study and national registries

08-04-2024 - National Library of Medicine

CONCLUSIONS: Among people with persistent musculoskeletal pain, the incidence of prematurely leaving the work force due to musculoskeletal conditions was twice as high for those with multiple LTCs compared to those without any LTCs. This was largely irrespective of the type of LTC, indicating that the number of LTCs are an important feature when evaluating work participation among people with ... [Read more...](#)

46. The Role of Cytokines in Acute and Chronic Postsurgical Pain in Pediatric Patients after Major Musculoskeletal Surgeries

08-04-2024 - National Library of Medicine

CONCLUSION: We identified pro-inflammatory cytokines associated with increased acute postoperative pain and anti-inflammatory cytokines associated with lower CPSP risk, with potential to serve as predictive and prognostic biomarkers. [Read more...](#)

47. Risk factors for nonresponse to 2 years of denosumab administration in patients with osteoporosis: A retrospective single-center cohorts study

08-04-2024 - National Library of Medicine

CONCLUSION: In osteoporotic patients receiving denosumab treatment, a history of bisphosphonate treatment was a risk factor for a lack of increase in LBMD, and a higher FNBMD at baseline was negatively associated with the change in FNBMD. [Read more...](#)

48. Opportunistic screening for osteoporosis

06-04-2024 - National Library of Medicine

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

49. Effects of transcutaneous electrical nerve stimulation on pain, function, and descending inhibition in people with non-specific chronic low-back pain: a study protocol for a randomized crossover trial

06-04-2024 - National Library of Medicine

BACKGROUND: Low back pain (LBP) is a significant public health problem, is very prevalent, and is often characterized by the persistence of symptoms. Transcutaneous electrical nerve stimulation (TENS) may benefit people with chronic LBP because it can activate descending inhibitory pathways and inhibit central excitability. However, previous studies that have investigated the effects of TENS ... [Read more...](#)

50. EPR24-114: Analysis of Risk of Bone Fracture and Osteoporosis and Dual-Energy X-Ray Absorptiometry Screening Rates in Lung Cancer Survivors With and Without Bone Metastases

05-04-2024 - National Library of Medicine

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

51. Construction and verification of risk prediction model of osteoporotic fractures in patients with osteoporosis in China

05-04-2024 - National Library of Medicine

CONCLUSION: In this study, a OPF risk prediction model is established and its prediction efficiency is verified, which can help identify the high fracture risk subgroup of osteoporosis patients in order to choose stronger intervention measures and management. [Read more...](#)

52. Comparison of psoas major activation during standing hip flexion between chronic low back pain and healthy populations

05-04-2024 - National Library of Medicine

CONCLUSION: Our findings suggest a potential overactivation of the PM in the cLBP population. This insight may aid in the development of tailored rehabilitation programs. [Read more...](#)

53. The associations between lumbar proprioception and postural control during and after calf vibration in people with and without chronic low back pain

04-04-2024 - National Library of Medicine

The relationships of lumbar proprioception with postural control have not been clarified in people with chronic low back pain. This study aimed to compare the associations between lumbar proprioception and postural control in response to calf vibration in individuals with and without chronic low back pain. In this study, we recruited twenty patients with chronic low back pain (CLBP group) and ... [Read more...](#)

54. Chronic Low Back Pain in Adults: Evaluation and Management

04-04-2024 - National Library of Medicine

Chronic low back pain, defined as lumbar pain persisting for 12 weeks or more, occurs in about 13% of U.S. adults. Patients with chronic low back pain should have a history and physical examination to identify red flags that may indicate serious conditions that warrant immediate intervention or yellow flags (i.e., psychological, environmental, and social factors) that indicate risk of disability. [Read more...](#)

55. GBA1 as a risk gene for osteoporosis in the specific populations and its role in the development of Gaucher disease

04-04-2024 - National Library of Medicine

CONCLUSIONS: Elevated ER stress and inflammasome activation are indicative of osteoporosis development, suggesting the need for clinical monitoring of patients with GD. Furthermore, disease-associated variant in the GBA1 gene may constitute a risk factor predisposing specific populations to osteoporosis. [Read more...](#)

56. Comparison of lumbar muscle morphology in patients with chronic nonspecific low back pain with and without clinical lumbar segmental instability

04-04-2024 - National Library of Medicine

CONCLUSIONS: The atrophic changes of the multifidus muscle, in CNLBP patients with or without clinical LSI was observed. However, hypertrophic changes of the erector spinae muscle at the L4-L5 lumbar level

were observed only in the clinical LSI group. Psaos major did not show significant atrophic or hypertrophic changes. [Read more...](#)

57. Sarcoidosis as a cause of chronic back pain: a case report

03-04-2024 - National Library of Medicine

While sarcoidosis is typically a multisystem disease, it can, in some instances, exclusively affect the vertebrae, leading to back pain. Additionally, sarcoidosis may manifest with inflammation of the sacroiliac joints, not meeting the criteria for spondyloarthritis, yet contributing to back pain. In this report, we present a case involving a previously healthy 55-year-old woman who sought ... [Read more...](#)

58. The Turkish minimum dataset for chronic low back pain research: a cross-cultural adaptation of the National Institutes of Health Task Force Research Standards

03-04-2024 - National Library of Medicine

CONCLUSION: Considering all these data, it was concluded that the Turkish version of the NIH-minimal dataset is a valid and reliable outcome measure for evaluating patients with CLBP. [Read more...](#)

59. Developing a low back pain guideline implementation programme in collaboration with physiotherapists and chiropractors using the Behaviour Change Wheel: a theory-driven design study

03-04-2024 - National Library of Medicine

CONCLUSIONS: A programme for implementing low back pain guideline recommendations was developed based on behaviour change theory and four co-design workshops involving healthcare professionals to overcome the contextually identified barriers. A theory-driven approach involving healthcare professionals was useful in identifying relevant target behaviours and tailoring the programme to consider ... [Read more...](#)

60. Revolutionizing Back Pain Management: Is Epidural Platelet-Rich Plasma the Superior Choice Over Steroids?

03-04-2024 - National Library of Medicine

Background and objective Low back discomfort is one of the main factors that restrict physical activity, and it is becoming more and more common. Surgery is the best option when all other conservative treatment methods have failed, but it is not a panacea. While local anesthetic-free and combined epidural steroid injections have been used for many years, their usefulness is limited to shorter ... [Read more...](#)

61. Development and evaluation of the ARM algorithm: A novel approach to quantify musculoskeletal disorder risk factors in manual wheelchair users in the real world

02-04-2024 - National Library of Medicine

This study aimed to develop and evaluate the ARM (arm repetitive movement) algorithm using inertial measurement unit (IMU) data to assess repetitive arm motion in manual wheelchair (MWC) users in real-world settings. The algorithm was tested on community data from four MWC users with spinal cord injury and compared with video-based analysis. Additionally, the algorithm was applied to in-home ... [Read more...](#)

62. Transition from Acute to Chronic Low Back Pain in a Community-Based Cohort

02-04-2024 - National Library of Medicine

The transition from acute to chronic low back pain (LBP) in community settings has yet to be well understood. We recruited n=131 participants with acute LBP from the community and followed them for 3 and 6-month outcomes. Acute LBP was defined by a duration of < 4 weeks, and participants must have reported a 30-day LBP-free period before the current acute episode. [Read more...](#)

63. Cost-effectiveness of romosozumab for the treatment of postmenopausal women with osteoporosis at high risk of fracture in Belgium

02-04-2024 - National Library of Medicine

CONCLUSION: Sequential treatment with romosozumab followed by alendronate was found to be cost-effective compared to alendronate monotherapy and dominant compared to teriparatide followed by alendronate for postmenopausal women with osteoporosis at high risk of fracture in Belgium. [Read more...](#)

64. Hidden risk factors and the mediating role of sleep in work-related musculoskeletal discomforts

02-04-2024 - National Library of Medicine

CONCLUSION: It would seem that shift work and job stress as two occupational hidden risk factors can mediate sleep indexes and indirectly play a critical role in the incidence of musculoskeletal discomforts. Moreover, sleep disorders and musculoskeletal discomforts are mutually related and have a bidirectional relationship. [Read more...](#)

65. Environmental and sociocultural factors are associated with pain-related brain structure among diverse individuals with chronic musculoskeletal pain: intersectional considerations

02-04-2024 - National Library of Medicine

Chronic musculoskeletal pain including knee osteoarthritis (OA) is a leading cause of disability worldwide. Previous research indicates ethnic-race groups differ in the pain and functional limitations experienced with knee OA. However, when socioenvironmental factors are included in analyses, group differences in pain and function wane. Pain-related brain structures are another area where ... [Read more...](#)

66. The association between night shift work and osteoporosis risk in adults: A cross-sectional analysis using NHANES

01-04-2024 - National Library of Medicine

CONCLUSION: Night shift work correlates with a higher risk of osteoporosis in the population of the US adults, with the combined effect of age, gender, and harmful lifestyle. [Read more...](#)

67. Evaluation of an mHealth App on Self-Management of Osteoporosis: Prospective Survey Study

01-04-2024 - National Library of Medicine

CONCLUSIONS: Danish patients with osteoporosis are both motivated and capable of using digital health services. The app's usability was acceptable, and it has the potential to reduce visits to general practitioner clinics, enhance health outcomes, and serve as a valuable addition to regular health or social care services. [Read more...](#)

68. The biopsychosocial factors associated with development of chronic musculoskeletal pain. An umbrella review and meta-analysis of observational systematic reviews

01-04-2024 - National Library of Medicine

CONCLUSIONS AND RELEVANCE: There is moderate certainty evidence that smoking, fear avoidance, poorer support networks, lower socioeconomic status, and high levels of pain are associated with development of chronic musculoskeletal pain. High risk of bias was evident in most included reviews this highlights the need for higher quality systematic reviews. [Read more...](#)

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MSK in child and adolescent health

MSK in child and adolescent health

1. Retrospective validation of a rapid Lyme fluorescent immunoassay in differentiating Lyme arthritis from other musculoskeletal presentations in children in a Lyme-endemic region

29-04-2024 - National Library of Medicine

Lyme arthritis can present similarly to other causes of joint pain and swelling including septic arthritis and other acute and chronic arthropathies of childhood. Septic arthritis, although rare, constitutes an orthopedic emergency and requires early surgical intervention to reduce the risk of permanent joint damage. Currently, results of standard serologic tests to diagnose Lyme disease take ... [Read more...](#)

2. An unusual cause of febrile knee pain in children: Septic arthritis of the proximal tibiofibular joint (a case report)

28-04-2024 - National Library of Medicine

CONCLUSIONS: A favorable outcome require a prompt diagnosis and treatment, involving surgical debridement, appropriate antibiotics, and postoperative immobilization. [Read more...](#)

3. Incidence and prevalence of musculoskeletal health conditions in survivors of childhood and adolescent cancers: A report from the Swiss childhood cancer survivor study

23-04-2024 - National Library of Medicine

CONCLUSION: MSHCs are prevalent in survivors, the risk is increasing in younger survivor cohorts, and MSHCs usually occur in multimorbid survivors. Strengthening of rehabilitation services and appropriate referrals are needed to mitigate the effects of the cancer and cancer treatment. [Read more...](#)

4. Sudden-Onset Back Pain and Intermittent Dyspnea While Eating: A Case of Pediatric Achalasia

22-04-2024 - National Library of Medicine

A 14-year-old girl with a history of asthma was hospitalized because of sudden-onset back pain around her thoracic region that spread to her chest and abdomen. She had been experiencing dysphagia and breathing difficulties for two years, especially after overeating, which often resulted in vomiting undigested food. CT imaging revealed a severely dilated esophagus narrowing at the ... [Read more...](#)

5. Low Back Pain in Children, CVD and Obstetric History, Sarcoidosis, Penicillin Allergies, Myocardial Infarction, Venous Ulcers

22-04-2024 - National Library of Medicine

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

6. Foot pain in children and adolescents: a problem-based approach in musculoskeletal ultrasonography

22-04-2024 - National Library of Medicine

Various etiologies and risk factors contribute to foot pain in children and adolescents, including conditions such as Kohler's disease, Sever's disease, Iselin's disease, rigid flat foot, accessory navicular, Freiberg's disease, sesamoiditis, os trigonum syndrome, and more. High-frequency musculoskeletal ultrasonography can show both the bone surface and the surrounding soft tissue clearly ... [Read more...](#)

7. A Rapid MRI Protocol for the Evaluation of Acute Pediatric Musculoskeletal Infections: Eliminating Contrast and Decreasing Anesthesia, Scan Time, and Hospital Length of Stay and Charges

17-04-2024 - National Library of Medicine

CONCLUSIONS: In patients evaluated for musculoskeletal infection, the rapid MRI protocol eliminated contrast and minimized anesthesia while improving MRI access and decreased scan and interpretation times, hospital length of stay, and hospital charges. The rapid MRI protocol had high sensitivity for diagnosing musculoskeletal infection and a low rate of imaging failure. [Read more...](#)

8. Cefadroxil and cephalexin pharmacokinetics and pharmacodynamics in children with musculoskeletal infections

10-04-2024 - National Library of Medicine

Cephalexin, a first-generation cephalosporin, is the first-line oral therapy for children with musculoskeletal infections due to methicillin-susceptible *Staphylococcus aureus* (MSSA). Cefadroxil, a similar first-generation cephalosporin, is an attractive alternative to cephalexin given its longer half-life. In this study, we describe the comparative pharmacokinetics (PK) and pharmacodynamics ... [Read more...](#)

9. Needs Assessment of Musculoskeletal Ultrasound Training in North American Pediatric Rheumatology Fellowship Programs

01-04-2024 - National Library of Medicine

CONCLUSION: This study demonstrates that North American pediatric rheumatology fellows have a strong interest in learning MSUS, but they face significant challenges in accessing MSUS training (lack of MSUS-trained faculty, time and access to hands-on training). MSUS should be incorporated into fellowship curriculum, however implementation remains a challenge. [Read more...](#)

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MSK and multi-morbidity

MSK and multi-morbidity

1. Osteoporosis and depression in perimenopausal women: From clinical association to genetic causality

12-04-2024 - National Library of Medicine

CONCLUSION: Integrating NHANES and MR analyses, a robust correlation between MDD and osteoporosis was identified, emphasizing the significance of addressing this comorbidity within clinical practice and meriting further investigation. [Read more...](#)

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MSK health and inequalities

MSK health and inequalities

1. Co-design of a Community-based Rehabilitation Program to Decrease Musculoskeletal Disabilities in a Mayan-Yucateco Municipality

29-04-2024 - National Library of Medicine

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

2. What gets measured gets managed: A scoping review of musculoskeletal research conducted within practice-based research networks

29-04-2024 - National Library of Medicine

Musculoskeletal (MSK) conditions are often managed in primary care settings. To facilitate research and health care quality, practice-based research networks (PBRNs) offer sustained collaborations between clinicians and researchers. A scoping review was conducted to describe characteristics of PBRNs used for MSK research and MSK research conducted through PBRNs. [Read more...](#)

3. Predicting osteoporosis from kidney-ureter-bladder radiographs utilizing deep convolutional neural networks

27-04-2024 - National Library of Medicine

Osteoporosis is a common condition that can lead to fractures, mobility issues, and death. Although dual-energy X-ray absorptiometry (DXA) is the gold standard for osteoporosis, it is expensive and not widely

available. In contrast, kidney-ureter-bladder (KUB) radiographs are inexpensive and frequently ordered in clinical practice. Thus, it is a potential screening tool for osteoporosis. [Read more...](#)

4. Treatment of Osteoporosis in Men on Androgen Deprivation Therapy in Japan

27-04-2024 - National Library of Medicine

Background and Objectives: Androgen deprivation therapy (ADT) for prostate cancer has greatly improved treatment outcomes. As patient survival rates have increased, reports of decreased bone density and increased bone fractures as side effects of ADT have emerged. The prevalence of osteoporosis in Japanese men was 4.6%. The purpose of this study was to evaluate the effect of osteoporosis ... [Read more...](#)

5. Construction of microgravity biological knowledge graph and its applications in anti-osteoporosis drug prediction

26-04-2024 - National Library of Medicine

Microgravity in the space environment can potentially have various negative effects on the human body, one of which is bone loss. Given the increasing frequency of human space activities, there is an urgent need to identify effective anti-osteoporosis drugs for the microgravity environment. Traditional microgravity experiments conducted in space suffer from limitations such as time-consuming ... [Read more...](#)

6. Does neighbourhood deprivation influence low back pain and arthritis: An empirical study using multilevel twin design

26-04-2024 - National Library of Medicine

CONCLUSION: Our study did not find significant associations between neighbourhood deprivation and the presence of LBP or arthritis. More research using multilevel modelling to investigate neighbourhood effects on LBP and arthritis is recommended. [Read more...](#)

7. Exploring the anti-osteoporosis potential of *Petroselinum crispum* (Mill.) fuss extract employing experimentally ovariectomized rat model and network pharmacology approach

25-04-2024 - National Library of Medicine

One of the most prevalent secondary osteoporosis is ovariectomy-induced osteoporosis. Parsley (*Petroselinum crispum*) has potent estrogenic and antioxidant properties and was used traditionally in the treatment of amenorrhea and dysmenorrhea. The present study aimed to characterize parsley leaf extract (PLE) employing RP-HPLC-MS/MS-based method and possible protective effect in ... [Read more...](#)

8. Focus on Fragility Fracture Training and education for Nurses

25-04-2024 - National Library of Medicine

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

9. Awareness About Osteoporosis Among the General Population Based on the Osteoporosis Knowledge Assessment Tool (OKAT): A Cross-Sectional Study in the Northern Border Region of Saudi Arabia

24-04-2024 - National Library of Medicine

CONCLUSION: The public awareness among the population in the Northern Border region about osteoporosis is less than satisfactory. More awareness activities targeting the risky groups should be planned especially in the area of risk factors and preventive measures for osteoporosis. [Read more...](#)

10. The mediating role of depressive symptoms among Turkish population related to gender and low back pain: evidence from a national health survey

23-04-2024 - National Library of Medicine

CONCLUSION: We observed that a higher likelihood of low back pain associated with gender and aging. Additionally, BMI served as a significant predictor, particularly in adults. Depression mediated the association between gender and low back pain. Acknowledging these associations may help identify and

address contributing factors to LBP, potentially increasing awareness and alleviating the burden. [Read more...](#)

11. Nurses' Knowledge and Practice of Appropriate Techniques of Body Mechanics and Non-specific Back Pain

19-04-2024 - National Library of Medicine

Background Nursing is a compassionate profession that carries occupational hazards, including work-related injuries. Back pain is a common concern due to the physically demanding tasks performed by nurses. Utilizing proper techniques of body mechanics is vital to prevent work-related back pain and enhance overall well-being. Aim To assess the knowledge and practice of the nurses working in ... [Read more...](#)

12. Correlation of serum anti-Mullerian hormone and Inhibin-B levels with osteoporosis of menopausal woman in Chinese Daur ethnic group

18-04-2024 - National Library of Medicine

CONCLUSION: AMH and InhB measurements in menopausal women had a certain clinical significance in the detection of osteoporosis. The occurrence of osteoporosis was related to BMD, OC, β -CTX, BALP, AMH, and InhB. [Read more...](#)

13. Development of a program theory for osteoporosis patient education in Denmark: a qualitative study based on realist evaluation

16-04-2024 - National Library of Medicine

CONCLUSIONS: We developed a program theory and examined how and why osteoporosis patient education is likely to be effective. Understanding these prerequisites is important for future implementation and evaluation of osteoporosis patient education. [Read more...](#)

14. Assessment of causal association between the socio-economic status and osteoporosis and fractures: a bidirectional Mendelian randomization study in European population

16-04-2024 - National Library of Medicine

CONCLUSIONS: The Mendelian randomization analyses show that higher educational levels is associated with higher eBMD, reduced risk of osteoporosis and fractures, while material deprivation is positively related to spine fracture. Enhanced FN-BMD correlates with increased household income. These findings offer valuable insights into the formulation of health guidelines and policy development. [Read more...](#)

15. Knowledge, Attitude, and Practices Towards Osteoporosis Among Adults in the United Arab Emirates (UAE) in 2023

15-04-2024 - National Library of Medicine

CONCLUSION: Our research demonstrates that there's a statistically significant correlation between gender variables with knowledge, attitudes, and practices. These findings have important implications in assessing the correlation between variables in our research that could be used to prevent osteoporosis further, target the specific demographic group, and provide the required education. [Read more...](#)

16. Family/caregiver influence on osteoporosis management for older people: an integrative review

15-04-2024 - National Library of Medicine

An integrative literature review was conducted to understand family/caregiver influence on osteoporosis management for older people. Findings include caregivers' overprotection, caregivers' risks for fragility fractures due to caregiving role, poor bone health in caregivers, and caregivers' burden and facilitators. Caregivers should be included in bone health and discharge planning. [Read more...](#)

17. Sex- and Age-Specific Prevalence of Osteopenia and Osteoporosis: Sampling Survey

05-04-2024 - National Library of Medicine

CONCLUSIONS: Our data imply that as people age, osteopenia and osteoporosis are more common in females than in males, particularly in postmenopausal females than in premenopausal females, and bone mineral density significantly affects the prevalence of chronic diseases. These findings offer information that can be applied to intervention programs meant to prevent or lessen the burden of ... [Read more...](#)

18. Knowledge of Back Pain and Spinal Disorders Among the General Population in the Western Region of Saudi Arabia

05-04-2024 - National Library of Medicine

Introduction Low back pain (LBP) is one of the most common global health problems and the second most common reason for seeking medical advice. However, most LBP does not indicate a serious disorder. Over half of the Saudi Arabian population experiences LBP at least once in their lives. Therefore, it is important to assess and understand how people manage this health problem. [Read more...](#)

19. The multi-faceted nature of age-associated osteoporosis

03-04-2024 - National Library of Medicine

Age-associated osteoporosis (AAOP) poses a significant health burden, characterized by increased fracture risk due to declining bone mass and strength. Effective prevention and early treatment strategies are crucial to mitigate the disease burden and the associated healthcare costs. Current therapeutic approaches effectively target the individual contributing factors to AAOP. [Read more...](#)

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MSK health and nutrition

MSK health and nutrition

1. Positive effect of peptide-calcium chelates from *Grifola frondosa* on a mouse model of senile osteoporosis

30-04-2024 - National Library of Medicine

Calcium supplementation has been shown to be efficacious in mitigating the progression of senile osteoporosis (SOP) and reducing the incidence of osteoporotic fractures resulting from prolonged calcium shortage. In this study, *Grifola frondosa* (GF) peptides-calcium chelate were synthesized through the interaction between peptide from GF and CaCl₂. The chelation reaction was shown to involve ... [Read more...](#)

2. Lactobacillus helveticus-Derived Whey-Calcium Chelate Promotes Calcium Absorption and Bone Health of Rats Fed a Low-Calcium Diet

27-04-2024 - National Library of Medicine

This study investigated the characteristics of Lactobacillus helveticus-derived whey-calcium chelate (LHWCC) and its effect on the calcium absorption and bone health of rats. Fourier-transform infrared spectroscopy showed that carboxyl oxygen atoms, amino nitrogen atoms, and phosphate ions were the major binding sites with calcium in LHWCC, which has a sustained release effect in simulated in ... [Read more...](#)

3. Nutrition-Based Support for Osteoporosis in Postmenopausal Women: A Review of Recent Evidence

23-04-2024 - National Library of Medicine

Postmenopausal osteoporosis stands as the predominant bone disorder in the developed world, posing a significant public health challenge. Nutritional factors play a crucial role in bone health and may contribute to its prevention or treatment. Calcium and vitamin D, extensively studied with robust scientific evidence, are integral components of the non-pharmacological treatment for this disorder. [Read more...](#)

4. Editorial: the role of vitamin D metabolites in the evaluation of bone health: are they physiologically relevant?

17-04-2024 - National Library of Medicine

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

5. Influence of Silicon Supplementation on Growth, Immunity, Antioxidant, Hormonal Profile and Bone Health Biomarkers in Pre-ruminant Crossbred Calves

15-04-2024 - National Library of Medicine

Silicon (Si), a newer trace element, is believed to be important for healthy bone formation and to decrease bone resorption, improving the quality of bone by manipulating several hormones and enzymes. Therefore, the current investigation was conducted to determine the impact of Si supplementation on growth, immunity, antioxidant, hormonal profile and biomarkers of bone health in pre-ruminant ... [Read more...](#)

6. Effects of vitamin D3, omega-3 s and a simple strength training exercise program on bone health: the DO-HEALTH randomized controlled trial

13-04-2024 - National Library of Medicine

CONCLUSIONS: Omega-3 and SHEP had no benefit on aBMD in healthy, active and largely vitamin D replete older adults. Our study suggests a small benefit of 2000 IU vitamin D daily on TH aBMD overall and LS aBMD among men, however, effect sizes were very modest and the clinical impact of these findings is unclear. [Read more...](#)

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MSK health and workplace wellbeing

MSK health and workplace wellbeing

1. Ergonomics, musculoskeletal disorders, treatment and return to work: a conceptual framework for intervention programs

24-04-2024 - National Library of Medicine

Musculoskeletal disorders are one of the most recurrent diseases among manual workers worldwide. The objective of this study was to analyze primary results of a systematic review on ergonomics, musculoskeletal disorders, treatment, and return to work in blue-collar workers to form a new conceptual framework applicable to intervention programs in this area. This study was based on the ... [Read more...](#)

2. Use of General Practitioner Services Among Workers with Work-Related Low Back Pain: A Systematic Review

23-04-2024 - National Library of Medicine

CONCLUSION: Only seven studies met the eligibility indicating a relative lack of evidence, despite the acknowledged important role that GPs play in the care of workers with low back pain. More research is needed to understand the prevalence, patterns and determinants to support effective service delivery and policy development. [Read more...](#)

3. Prevalence of work-related musculoskeletal disorders and associated factors affecting emergency medical services professionals in Jordan: a cross-sectional study

17-04-2024 - National Library of Medicine

CONCLUSIONS: There is a high prevalence of musculoskeletal complaints among EMS personnel. Multiple variables may be incorporated into a national prevention campaign and professional development programme to educate EMS personnel on avoiding WMSDs. [Read more...](#)

4. Work-related musculoskeletal disorders in dockworkers. Systematic review and meta-analysis

12-04-2024 - National Library of Medicine

CONCLUSIONS: Musculoskeletal disorders seem prevalent among dockworkers, mainly degenerative spinal diseases and low back pain. Studies with greater methodological consistency are still needed to validate these hypotheses and assist in decision-making for implementing preventive and informational policies in maritime port management organizations. PROSPERO registry CRD42021257677. [Read more...](#)

5. Association between musculoskeletal pain and exposures to awkward postures during work: a compositional analysis approach

11-04-2024 - National Library of Medicine

CONCLUSIONS: Although the exposure to awkward postures was modest, our results showed an association between increased time spent in awkward postures and an increase in neck/shoulder pain and low back pain in home care workers. As musculoskeletal pain is the leading cause of sickness absence, these findings suggest that home care units could benefit from re-organizing work to avoid excessive ... [Read more...](#)

6. Musculoskeletal disorders and work ability among dentists and dental students in Finland

05-04-2024 - National Library of Medicine

CONCLUSIONS: Despite all the ergonomic advances in modern dentistry, the occurrence of MSD symptoms is still high. MSDs seem to affect dentists' work ability significantly, but amount of sickness absence is relatively low, which may indicate a high level of presenteeism. [Read more...](#)

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MSK health communication

MSK health communication

1. Digital Survey Assessment of Individual and Occupational Factors Associated with Musculoskeletal Disorders among Indian Ophthalmologists

29-04-2024 - National Library of Medicine

CONCLUSION: A vast majority of our respondents reported work-related MSD. Major risk factors were hours of practice, hours of surgery, higher body mass index, sedentary lifestyle, and higher patient load. The awareness of ergonomic practices was low. [Read more...](#)

2. Digital musculoskeletal program is associated with decreased joint replacement rates

11-04-2024 - National Library of Medicine

CONCLUSIONS: These findings suggest that patients who participated in a digital MSK program to manage OA have lower rates of total joint arthroplasty in the 12 months after enrollment. [Read more...](#)

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MSK health data and surveillance

MSK health data and surveillance

1. Microwave ablation combined with percutaneous vertebroplasty for treating painful non-small cell lung cancer with spinal metastases under real-time temperature monitoring

30-04-2024 - National Library of Medicine

CONCLUSIONS: MWA combined with PVP can significantly relieve pain and improve patients' quality of life, which implied this is an effective treatment option for painful NSCLC with spinal metastases. Additionally, its efficacy should be further verified through the mid- and long-term studies. [Read more...](#)

2. Antiarthritic potential of ethanolic extract of *Ixora coccinea* leaves on complete Freund's adjuvant-induced arthritis in animal model

30-04-2024 - National Library of Medicine

CONCLUSIONS: EEICL has anti-arthritic potential in rat model. [Read more...](#)

3. Digital resources in the monitoring of patients with cleft lip and palate: protocol for a scoping review

29-04-2024 - National Library of Medicine

INTRODUCTION: Cleft lip and/or palate (CL+/-P) is a congenital malformation affecting the lip and palate, requiring long-term treatment due to potential associated complications. For this reason, it is important for the patient to be continuously monitored and followed for health promotion and prevention, as well as improving the quality of life. The aim of this scoping review protocol is to ... [Read more...](#)

4. Causal analysis of body composition measurements in osteoarthritis knee: a two-sample mendelian randomization study

29-04-2024 - National Library of Medicine

CONCLUSIONS: Body fat percentage may be a better indicator of KOA than BMI. In addition, weight and BMR may have a causal effect in KOA, but WHR does not have a causal relationship. BMI, body fat percentage, waist circumference, and hip circumference has a causal effect on KOA. [Read more...](#)

5. Epidemiology and molecular characterization of adult genetic myopathies in a southeastern region of Spain

29-04-2024 - National Library of Medicine

CONCLUSION: The prevalence of GMs can vary considerably depending on the geographical region and the studied population. The analysis of diagnostic yield suggests that genetic studies should be considered useful in the diagnosis of genetic myopathies. [Read more...](#)

6. Cardioprotection and Suppression of Fibrosis by Diverse Cancer and Non-Cancer Cell Lines in a Murine Model of Duchenne Muscular Dystrophy

27-04-2024 - National Library of Medicine

The dynamic relationship between heart failure and cancer poses a dual challenge. While cardiac remodeling can promote cancer growth and metastasis, tumor development can ameliorate cardiac dysfunction and suppress fibrosis. However, the precise mechanism through which cancer influences the heart and fibrosis is yet to be uncovered. To further explore the interaction between heart failure and ...

[Read more...](#)

7. Advancing Adverse Drug Reaction Prediction with Deep Chemical Language Model for Drug Safety Evaluation

27-04-2024 - National Library of Medicine

The accurate prediction of adverse drug reactions (ADRs) is essential for comprehensive drug safety evaluation. Pre-trained deep chemical language models have emerged as powerful tools capable of automatically learning molecular structural features from large-scale datasets, showing promising capabilities for the downstream prediction of molecular properties. [Read more...](#)

8. A Biodegradable Tissue Adhesive for Post-Extraction Alveolar Bone Regeneration under Ongoing Anticoagulation-A Microstructural Volumetric Analysis in a Rodent Model

27-04-2024 - National Library of Medicine

In addition to post-extraction bleeding, pronounced alveolar bone resorption is a very common complication after tooth extraction in patients undergoing anticoagulation therapy. The novel, biodegenerative, polyurethane adhesive VIVO has shown a positive effect on soft tissue regeneration and hemostasis. However, the regenerative potential of VIVO in terms of bone regeneration has not yet been ... [Read more...](#)

9. Evaluation of the Psychometric Properties of the Musculoskeletal Health Questionnaire (MSK-HQ) in a Population of Professional Basketball Players: A Cross-Sectional Study

27-04-2024 - National Library of Medicine

Background and Objective: Musculoskeletal disorders affect a large portion of the population worldwide. The musculoskeletal health questionnaire is a helpful tool for assessing the health state of patients with these disorders. The primary goal of this study is to evaluate the psychometric properties of the MSK_HQ-IT in a population of professional basketball players. [Read more...](#)

10. Design of a Self-Measuring Device Based on Bioelectrical Impedance Analysis for Regular Monitoring of Rheumatoid Arthritis

27-04-2024 - National Library of Medicine

Rheumatoid arthritis (RA) is a chronic disease, in which permanent joint deformation is largely preventable with the timely introduction of appropriate treatment strategies. However, there is no consensus for patients with RA to monitor their progress and communicate it to the rheumatologist till the condition progresses to remission. In response to this unmet need, ... [Read more...](#)

11. Histology and chronological magnetic resonance images of congenital spinal deformity: An experimental study in mice model

26-04-2024 - National Library of Medicine

CONCLUSIONS: Spinal malformations in mice were chronologically observed via 7 T MRI and histology. MR images could be used to distinguish the histological structures of normal and malformed mouse spines. Malformed vertebrae were accompanied by adjacent intervertebral structures that corresponded to the fully segmented structures observed in human congenital scoliosis, ... [Read more...](#)

12. Evaluation of patient reported outcome measures and costs of managing osteoarthritis of the hip

26-04-2024 - National Library of Medicine

The number of hospital admissions for a hip prosthesis increased by more than 91% between 2002 and 2019 in Belgium (1), making it one of the most common interventions in hospitals. The objective of this study is to evaluate patient-reported outcomes and hospital costs of hip replacement six months after surgery. Both generic (EQ-5D) and specific (HOOS) PROMs of general hospital patients ... [Read more...](#)

13. A novel diagnostic model based on lncRNA PTPRE expression, neutrophil count and red blood cell distribution width for diagnosis of seronegative rheumatoid arthritis

25-04-2024 - National Library of Medicine

Diagnosis of seronegative rheumatoid arthritis (SNRA) is difficult due to the lack of diagnostic markers. The study aims to construct a novel diagnostic model based on long noncoding RNAs (lncRNAs) expression and laboratory indicators to provide a new idea for diagnostic methods of SNRA. Differentially expressed lncRNAs in peripheral blood cells of RA patients were screened through eukaryotic ... [Read more...](#)

14. Pretreatment mortality risk prediction model in patients with polymyositis/dermatomyositis-associated interstitial lung disease

25-04-2024 - National Library of Medicine

CONCLUSIONS: We developed and validated an evidence-based mortality risk prediction model with simple, readily accessible clinical variables in patients with PM/DM-ILD, which may inform clinical decision-making. [Read more...](#)

15. Thyroid hormone induces ossification and terminal maturation in a preserved OA cartilage biomimetic model

25-04-2024 - National Library of Medicine

CONCLUSIONS: RNA-sequencing results show that metabolic activation and recuperation of growth plate morphology are induced by T3 in OA chondrocytes, indicating terminal maturation is accelerated. The molecular mechanisms involved in hypertrophy were linked to all stages of OA pathophysiology and will be used to validate disease models for drug testing. [Read more...](#)

16. Photobiomodulation Can Prevent Medication-Related Osteonecrosis of the Jaw Formation in Tooth Extraction Site of Rat Model

25-04-2024 - National Library of Medicine

Objective: This study aims to explore the preventive potential of photobiomodulation (PBM) in bisphosphonate-related osteonecrosis of the jaw (BRONJ) using a rat model. Methods: An experimental rat model was established, exposing rats to zoledronic acid (ZA), a primary risk factor for BRONJ. An 810 nm diode laser was applied with parameters of 0.33 W/cm² power density and 10 J/cm² energy ... [Read more...](#)

17. Cartilage stem/progenitor cells-derived exosomes facilitate knee cartilage repair in a subacute osteoarthritis rat model

25-04-2024 - National Library of Medicine

Cartilage defects in the knee are often associated with the progression of degenerative osteoarthritis (OA), and cartilage repair is a useful strategy for managing this disease. However, cartilage repair is challenging because of the unique environment within the tissue. Recently, stem cell-based therapies have shed new light on this issue. In this study, we prepared exosomes (EXOs) from ... [Read more...](#)

18. Establishment and evaluation of a rabbit model of frozen shoulder induced by persistent strain injuries and ice compression

25-04-2024 - National Library of Medicine

CONCLUSION: The behavioral, imaging and pathological findings showed that the rabbit frozen shoulder model with persistent strain injuries and ice compression is consistent with the clinical manifestations and pathogenesis of periarthritis, making it an ideal method for periarthritis research. [Read more...](#)

19. Taurine activates the AKT-mTOR axis to restore muscle mass and contractile strength in human 3D in vitro models of steroid myopathy

24-04-2024 - National Library of Medicine

Steroid myopathy is a clinically challenging condition exacerbated by prolonged corticosteroid use or adrenal tumors. In this study, we engineered a functional three-dimensional (3D) in vitro skeletal muscle model to investigate steroid myopathy. By subjecting our bioengineered muscle tissues to dexamethasone treatment, we reproduced the molecular and functional aspects of this disease. [Read more...](#)

20. Quantitative analysis and stochastic modeling of osteophyte formation and growth process on human vertebrae based on radiographs: a follow-up study

24-04-2024 - National Library of Medicine

Osteophytes are frequently observed in elderly people and most commonly appear at the anterior edge of the cervical and lumbar vertebrae body. The anterior osteophytes keep developing and will lead to neck/back pain over time. In clinical practice, the accurate measurement of the anterior osteophyte length and the understanding of the temporal progression of anterior osteophyte growth are of ... [Read more...](#)

21. Effect of Intelligent Health Education Based on Health Belief Model on Patients With Kinesophobia After Surgical Treatment of Cervical Spondylosis

22-04-2024 - National Library of Medicine

CONCLUSION: Intelligent health education based on the health belief model can help reduce the degree of kinesophobia in patients with postoperative kinesophobia after surgical treatment of cervical spondylosis and improve patient prognosis. [Read more...](#)

22. Upper extremity contact pressure measurement in robot-assisted pelvic surgery

20-04-2024 - National Library of Medicine

Upper extremity complications are often a problem in robot-assisted pelvic surgery (RAPS) with the lithotomy-Trendelenburg position (LT-position). This study focused on upper extremity contact pressure (UEP) and examined the relationship between UEP and upper extremity complications. From May 2020 to April 2022 at the University of Tokyo Hospital, UEP was measured in 155 patients undergoing ... [Read more...](#)

23. Apigenin and Rutaecarpine reduce the burden of cellular senescence in bone marrow stromal stem cells

19-04-2024 - National Library of Medicine

INTRODUCTION: Osteoporosis is a systemic age-related disease characterized by reduced bone mass and microstructure deterioration, leading to increased risk of bone fragility fractures. Osteoporosis is a worldwide major health care problem and there is a need for preventive approaches. [Read more...](#)

24. Global burden of osteoarthritis in adults aged 30 to 44 years, 1990 to 2019: results from the Global Burden of Disease Study 2019

19-04-2024 - National Library of Medicine

CONCLUSIONS: OA remains a significant disease burden on individuals aged 30 to 44, with modifiable risk factors such as unhealthy lifestyle and obesity representing key targets for future interventions aimed at reducing the impact of this condition on younger generations. [Read more...](#)

25. Ambulatory electrocardiographic longitudinal monitoring in a canine model for Duchenne muscular dystrophy identifies decreased very low frequency power as a hallmark of impaired heart rate variability

18-04-2024 - National Library of Medicine

Duchenne muscular dystrophy (DMD) patients exhibit a late left ventricular systolic dysfunction preceded by an occult phase, during which myocardial fibrosis progresses and some early functional impairments can be detected. These latter include electrocardiographic (ECG) and heart rate variability (HRV) abnormalities. This longitudinal study aimed at describing the sequence of ECG and HRV ... [Read more...](#)

26. Three-year follow-up of a novel orthopedic ward fracture liaison services (OWFLS) model

18-04-2024 - National Library of Medicine

CONCLUSIONS: OWFLS improved the detection rate of bone metabolism indicators, treatment rate, and patient adherence and reduced recurrence of bone pain. OWFLS may be suitable for settings lacking human resources. [Read more...](#)

27. Semiparametric modeling for the cardiometabolic risk index and individual risk factors in the older adult population: A novel proposal

18-04-2024 - National Library of Medicine

CONCLUSIONS: Semiparametric modeling explained 24.5% of the observed deviance, which was higher than the 18.2% explained by the linear model. [Read more...](#)

28. Clinical value of questionnaires & physical tests for patellofemoral pain: Validity, reliability and predictive capacity

17-04-2024 - National Library of Medicine

CONCLUSIONS: KOOS-PF, KPS and VISA-P demonstrated their diagnostic value in PFP/chondromalacia (validity, reliability, sensitivity, specificity, predictive value and clinical applicability). KOOS-PF was the most versatile, and the most appropriate in mild cases and for early detection and prevention. Squat was the best due to its reliability and clinical relationship with the questionnaires, ... [Read more...](#)

29. A shared pattern of midfacial bone modelling in hominids suggests deep evolutionary roots for human facial morphogenesis

17-04-2024 - National Library of Medicine

Midfacial morphology varies between hominoids, in particular between great apes and humans for which the face is small and retracted. The underlying developmental processes for these morphological differences are still largely unknown. Here, we investigate the cellular mechanism of maxillary development (bone modelling, BM), and how potential changes in this process may have shaped facial ... [Read more...](#)

30. Evaluation of the consistency of the MRI- based AI segmentation cartilage model using the natural tibial plateau cartilage

17-04-2024 - National Library of Medicine

CONCLUSION: Our study demonstrated that our MRI-based AI cartilage model can reliably extract morphologic features such as cartilage shape and defect location of the tibial plateau cartilage. This approach could potentially benefit clinical practices such as diagnosing osteoarthritis. However, in terms of cartilage thickness and three-dimensional accuracy, MRI-based AI cartilage model ... [Read more...](#)

31. Global burden of rheumatoid arthritis among adolescents and young adults aged 10-24 years: A trend analysis study from 1990 to 2019

16-04-2024 - National Library of Medicine

CONCLUSION: In conclusion, the study revealed an overall increase in the incidence and prevalence of RA among adolescents and young adults (AYAs) over the past three decades, while DALYs rate remained relatively stable. Furthermore, the incidence, prevalence, and DALYs rate of RA were found to increase with age. Fortunately, recent proactive preventive measures and treatment methods have ... [Read more...](#)

32. Multivariate logistic regression analysis of risk factors for birth defects: a study from population-based surveillance data

15-04-2024 - National Library of Medicine

CONCLUSION: In summary, several risk factors were associated with birth defects (including a broad range of specific defects). One risk factor may be associated with several defects, and one defect may be associated with several risk factors. Future studies should examine the mechanisms. Our findings have significant public health implications as some factors are modifiable or avoidable, ... [Read more...](#)

33. Status of outcome measures in randomized controlled trials of kidney-tonifying and blood-activating method in treatment of knee osteoarthritis

15-04-2024 - National Library of Medicine

This study assesses the status of outcome measures in the randomized controlled trial(RCT) involving the kidney-tonif-ying and blood-activating method for treating knee osteoarthritis(KOA), aiming to establish a theoretical foundation for the development of a core set of outcome measures in traditional Chinese medicine(TCM) treatment of KOA. The relevant articles were retrieved from CNKI, ... [Read more...](#)

34. Olfactory bulb anomalies in KBG syndrome mouse model and patients

14-04-2024 - National Library of Medicine

ANKRD11 (ankyrin repeat domain 11) is a chromatin regulator and the only gene associated with KBG syndrome, a rare neurodevelopmental disorder. We have previously shown that Ankrd11 regulates murine embryonic cortical neurogenesis. Here, we show a novel olfactory bulb phenotype in a KBG syndrome mouse model and two diagnosed patients. Conditional knockout of Ankrd11 in murine embryonic neural ... [Read more...](#)

35. Construct validity, reliability, and threshold value for treatment goals of the Thai version of the 12-item Psoriatic Arthritis Impact of Disease Questionnaire for patients with psoriatic arthritis

13-04-2024 - National Library of Medicine

CONCLUSIONS: The Thai-PsAID is a valid, reliable, and feasible tool for measuring PsA prognosis. A cutoff of 2.7 accurately discriminates MDA and PASS and indicates no need for medication escalation. The Thai-PsAID may be used as a standalone measure. [Read more...](#)

36. Online Questionnaire with Fibromyalgia Patients Shows Negative Correlations between Disease Severity and Adherence to Mediterranean Diet

13-04-2024 - National Library of Medicine

Fibromyalgia (FM) is a multidimensional disorder in which intense chronic pain is accompanied by a variety of psychophysical symptoms that impose a burden on the patients' quality of life. Despite the efforts and the recent advancement in research, FM pathogenesis and effective treatment remain unknown. Recently, the possible role of dietary patterns and/or components has been gaining attention. [Read more...](#)

37. Establishment of a Mouse Degenerative Model of Patellar Tendinopathy with Upregulation of Inflammation

13-04-2024 - National Library of Medicine

There is no mouse model of patellar tendinopathy. This study aimed to establish a mouse inflammatory and degenerative patellar tendon injury model, which will facilitate research on patellar tendinopathy using advanced molecular tools including transgenic models. Collagenase at different doses (low dose (LD), medium dose (MD), high dose (HD)) or saline was injected over the mouse patellar tendon. [Read more...](#)

38. Unicompartmental Knee Arthroplasty for Osteoarthritis Eliminates Lateral Thrust: Associations between Lateral Thrust Detected by Inertial Measurement Units and Clinical Outcomes

13-04-2024 - National Library of Medicine

The purpose of this study was to investigate the relationship between clinical outcomes and lateral thrust before and after unicompartmental knee arthroplasty (UKA) using inertial measurement sensor units. Eleven knees were evaluated with gait analysis. The varus angular velocity was used to evaluate lateral thrust. The femorotibial angle (FTA) and hip-knee-ankle angle (HKA) were used to ... [Read more...](#)

39. Influence of Various Strontium Formulations (Ranelate, Citrate, and Chloride) on Bone Mineral Density, Morphology, and Microarchitecture: A Comparative Study in an Ovariectomized Female Mouse Model of Osteoporosis

13-04-2024 - National Library of Medicine

Osteoporosis stands out as a prevalent skeletal ailment, prompting exploration into potential treatments, including dietary strontium ion supplements. This study assessed the efficacy of supplementation of three strontium forms-strontium citrate (SrC), strontium ranelate (SrR), and strontium chloride (SrCl)-for enhancing bone structure in 50 female SWISS mice, aged seven weeks. [Read more...](#)

40. A novel model of locking plate and locking spongious screw: a biomechanical in vitro comparison study with classical locking plate

12-04-2024 - National Library of Medicine

CONCLUSIONS: In conclusion, one of the important problems in the locking plates which is the high Pull-out risk of the locking spongious screws can be resolved with our proposed new model and has a chance of having a better purchase especially in osteoporotic bones. [Read more...](#)

41. Esculin suppresses the PERK-eIF2alpha-CHOP pathway by enhancing SIRT1 expression in oxidative stress-induced rat chondrocytes, mitigating osteoarthritis progression in a rat model

12-04-2024 - National Library of Medicine

CONCLUSION: Our results suggest the potential therapeutic value of Esculin on osteoarthritis. It probably inhibits the PERK-eIF2 α -ATF4-CHOP pathway by upregulating SIRT1, thereby mitigating endoplasmic reticulum stress and protecting chondrocytes from apoptosis. [Read more...](#)

42. Association of circulating biomarkers with illness severity measures differentiates myalgic encephalomyelitis/chronic fatigue syndrome and post-COVID-19 condition: a prospective pilot cohort study

10-04-2024 - National Library of Medicine

CONCLUSIONS: Our findings revealed that combining biomarkers of endothelial dysfunction and inflammation with outcome measures differentiate ME/CFS and Long COVID using robust discriminant analysis of principal components. Further research is needed to provide a more comprehensive characterization of these underlying pathomechanisms, which could be promising targets for therapeutic and ... [Read more...](#)

43. Assessment of the FRET-based Teen sensor to monitor ERK activation changes preceding morphological defects in a RASopathy zebrafish model and phenotypic rescue by MEK inhibitor

09-04-2024 - National Library of Medicine

CONCLUSION: This work proves the usefulness of FRET imaging protocols on both live and fixed Teen ERK reporter fish to readily monitor and quantify pharmacologically- and genetically-induced ERK activity modulations in early embryos, representing a useful tool in pre-clinical applications targeting RAS-MAPK signaling. [Read more...](#)

44. Incidence and disease burden of autoimmune inflammatory rheumatic diseases after non-pharmaceutical interventions in the COVID-19 era: A nationwide observational study in Korea

09-04-2024 - National Library of Medicine

CONCLUSION: Implementation of NPIs to contain the pandemic led to a reduction in the incidence of SLE and changed patterns of medical care utilization and treatment cost for most AIRDs. [Read more...](#)

45. Bone evaluation study-2: update on the epidemiology of osteoporosis in Germany

09-04-2024 - National Library of Medicine

CONCLUSIONS: Germany has a high prevalence of osteoporosis. Only a small portion of individuals who may require osteoporosis-specific treatment actually receive it. [Read more...](#)

46. A portable system to measure knee extensor spasticity after spinal cord injury

09-04-2024 - National Library of Medicine

CONCLUSIONS: These findings suggest that our new portable IMU-based system provides a robust and flexible alternative to a camera-based optical tracking system to quantify knee extensor spasticity following SCI. [Read more...](#)

47. Automatic measurement of lower limb alignment in portable devices based on deep learning for knee osteoarthritis

09-04-2024 - National Library of Medicine

CONCLUSION: The automatic measurement tool can assess the alignment of lower limbs in portable devices for knee osteoarthritis patients. The results are reliable, reproducible, and time-saving. [Read more...](#)

48. Estimating the prevalence and predictors of musculoskeletal disorders in Tanzania: a cross-sectional pilot study

08-04-2024 - National Library of Medicine

CONCLUSION: this Tanzanian study demonstrates a prevalence of MSK disorders and identifies predictors of MSK disorders comparable to those seen globally. These findings can inform the development of rheumatology services and interventions in Tanzania and the design of future investigations of the determinants of MSK disorders, and their impacts on health, livelihoods, and well-being. [Read more...](#)

49. Establishment of Patient-Derived Xenograft Mouse Model with Human Osteosarcoma Tissues

08-04-2024 - National Library of Medicine

Osteosarcoma is the most common primary malignant bone tumor in children and adolescents. Despite the development of new treatment plans in recent years, the prognosis for osteosarcoma patients has not significantly improved. Therefore, it is crucial to establish a robust preclinical model with high fidelity. The patient-derived xenograft (PDX) model faithfully preserves the genetic, ... [Read more...](#)

50. Polysaccharide of Agaricus blazei gel mitigates bone necrosis in model of the jaws related to bisphosphonate via Wnt signaling

08-04-2024 - National Library of Medicine

To investigate the effect of PAB gel on the bone tissue of rats submitted to Bisphosphonate-related osteonecrosis of the jaws (BRONJ). Initially, 54 animals were submitted to BRONJ model by Zoledronic Acid (ZA) (0.1 mg/kg 3x/wk for 9 wk, ip), followed by the 1st upper left molar extraction at the 8th wk. After tooth removal, the animals were divided into 3 groups, ... [Read more...](#)

51. Disease-modifying potential of diphenyl diselenide in an experimental osteoarthritis model

08-04-2024 - National Library of Medicine

Oxidative stress is a key factor in the disruption of cartilage homeostasis during the development of osteoarthritis (OA). Organic selenium (Se)-containing compounds such as diselenides have excellent antioxidant activity and may prevent related diseases. We aimed to examine the benefits of the synthetic small molecule diphenyl diselenide (DPDSe) in OA models in vitro and in vivo. [Read more...](#)

52. Curcumin regulates autophagy through SIRT3-SOD2-ROS signaling pathway to improve quadriceps femoris muscle atrophy in KOA rat model

08-04-2024 - National Library of Medicine

Knee osteoarthritis (KOA) usually leads to quadriceps femoris atrophy, which in turn can further aggravate the progression of KOA. Curcumin (CUR) has anti-inflammatory and antioxidant effects and has been shown to be a protective agent for skeletal muscle. CUR has been shown to have a protective effect on skeletal muscle. However, there are no studies related to whether CUR improves ... [Read more...](#)

53. Multi-institutional Assessment of Otitis Media Epidemiology Using Real-world Data

06-04-2024 - National Library of Medicine

CONCLUSIONS: Approximately 20% of children by age 1 and 40% of children by age 3 years will have experienced an OM episode. OM rates decreased after PCV-13 and COVID-19. Children with abnormal ciliary function or craniofacial conditions, specifically cleft palate, carry the highest risk of OM. [Read more...](#)

54. A novel in-vitro model of intervertebral disc degeneration using hyperphysiological loading

06-04-2024 - National Library of Medicine

Intervertebral disc (IVD) degeneration includes changes in tissue biomechanics, physical attributes, biochemical composition, disc microstructure, and cellularity, which can all affect the normal function of the IVD, and ultimately may lead to pain. The purpose of this research was to develop an in-vitro model of degeneration that includes the evaluation of physical, biomechanical, ... [Read more...](#)

55. Epidemiology and characteristics of Paget's disease of bone in a French nationwide HIV cohort

05-04-2024 - National Library of Medicine

Paget's disease of bone (PDB) has rarely been reported in people with HIV (PWH). We describe the prevalence and characteristics of patients with PDB in the French multicenter Dat'AIDS cohort. Among 49 698 PWH actively followed in 2022, 9 had a diagnosis of PDB. The overall prevalence of PDB was 0.02% [95% confidence interval (CI) 0.01-0.03]. The prevalence of PDB in PWH is very low and does ... [Read more...](#)

56. The Musculoskeletal 30-question multiple choice questionnaire (MSK-30): a new assessing tool of musculoskeletal competence in a sample of Italian physiotherapists

04-04-2024 - National Library of Medicine

CONCLUSIONS: This work demonstrates significant differences in the management of musculoskeletal disorders between those with specific postgraduate university education and those without. The findings can contribute to the advancement of the physiotherapy profession in Italy. Authors recommend further research with more robust methodologies to deeper understand this topic. [Read more...](#)

57. Evaluating the real-world effectiveness of belimumab in patients with SLE using SLE-related laboratory values and rheumatoid arthritis-derived disease activity measures: RAPID3, swollen joint count and tender joint count

04-04-2024 - National Library of Medicine

CONCLUSIONS: In this real-world effectiveness study, belimumab therapy for SLE resulted in clinically meaningful improvements in rheumatoid arthritis-derived disease activity measures within 3 months of treatment, with patients who remained on belimumab therapy experiencing improvement even up to 24 months of observation. [Read more...](#)

58. Comparing the effectiveness of computer-aided design/computer-aided manufacturing (CAD/CAM) of insoles manufactured from foam box cast versus direct scans on patient-reported outcome measures: a protocol for a double-blinded, randomised controlled trial

03-04-2024 - National Library of Medicine

INTRODUCTION: Custom insoles are a routine treatment for many foot pathologies, and the use of computer-aided design and computer-aided manufacturing (CAD/CAM) is well established within clinical practice in the UK. The method of foot shape capture used to produce insoles varies throughout orthotic services. This trial aims to investigate the effectiveness of two common shape-capture ... [Read more...](#)

59. Prednisolone Versus Colchicine for Acute Gout in Primary Care: statistical analysis plan for the pragmatic, multicenter, randomized, and double-blinded COPAGO non-inferiority trial

03-04-2024 - National Library of Medicine

BACKGROUND: To date, colchicine and prednisolone are two effective therapies for the treatment of acute gout but have never been compared directly in a randomized clinical trial. In addition, in previous trials of treating acute gout patients with concomitant comorbidities were often excluded due to contraindications to naproxen. [Read more...](#)

60. Prediction model for spinal cord injury in spinal tuberculosis patients using multiple machine learning algorithms: a multicentric study

02-04-2024 - National Library of Medicine

Spinal cord injury (SCI) is a prevalent and serious complication among patients with spinal tuberculosis (STB) that can lead to motor and sensory impairment and potentially paraplegia. This research aims to identify factors associated with SCI in STB patients and to develop a clinically significant predictive model. Clinical data from STB patients at a single hospital were collected and ... [Read more...](#)

61. Preliminary comparative study of lower extremity pressure measurements under the conditions using former models and new lithotomy stirrups in rectal cancer surgery

02-04-2024 - National Library of Medicine

CONCLUSION: These results suggest that the new lithotomy stirrups-2 is useful in reducing the pressure load on leg muscles, especially on the proximal to central soleus, and may reduce the incidence of WLCS and DVT after rectal surgery performed in the lithotomy position. Further clinical studies are needed to determine whether the use of lithotomy stirrups-2 prevents these complications in ... [Read more...](#)

62. Psychometric properties of the Disability of Arm Shoulder and Hand (DASH) in subjects with frozen shoulder: a reliability and validity study

02-04-2024 - National Library of Medicine

CONCLUSION: The DASH questionnaire demonstrated good psychometric properties in FS patients, supporting its use as a valuable tool for assessing the impact of FS in clinical and research settings. [Read more...](#)

63. Peripheral T-cell responses of EphB2- and EphB3-deficient mice in a model of collagen-induced arthritis

01-04-2024 - National Library of Medicine

Both EphB2- and EphB3-deficient mice exhibit profound histological alterations in the thymic epithelial network but few changes in T-cell differentiation, suggesting that this organization would be sufficient to produce functional T lymphocytes. Also, other antigen-presenting cells involved in immunological education could substitute the thymic epithelium. Accordingly, ... [Read more...](#)

64. Transcranial direct current stimulation is more effective than pregabalin in controlling nociceptive and anxiety-like behaviors in a rat fibromyalgia-like model

01-04-2024 - National Library of Medicine

CONCLUSIONS: tDCS was more effective than pregabalin in controlling nociception and anxiety-like behavior in a rat model-like fibromyalgia. Considering the translational aspect, our findings suggest that tDCS could be a potential non-pharmacological treatment for fibromyalgia. [Read more...](#)

65. Optimizing prediction accuracy for early recurrent lumbar disc herniation with a directional mutation-guided SVM model

30-03-2024 - National Library of Medicine

Percutaneous endoscopic lumbar discectomy (PELD) is one of the main means of minimally invasive spinal surgery, and is an effective means of treating lumbar disc herniation, but its early recurrence is still difficult to predict. With the development of machine learning technology, the auxiliary model based on the prediction of early recurrent lumbar disc herniation (rLDH) and the ... [Read more...](#)

66. Dual-Channel/Localization Single-Molecule Fluorescence Probe for Monitoring ATP and HOCl in Early Diagnosis and Therapy of Rheumatoid Arthritis

29-03-2024 - National Library of Medicine

Rheumatoid arthritis (RA), a common chronic inflammatory illness, is still incurable, reducing the sufferers' quality of life significantly. Adenosine 5'-triphosphate (ATP) and hypochlorous acid (HOCl) are key indicators in RA, but their precise mechanisms in RA pathophysiology are unknown. As a result, in order to detect ATP and HOCl simultaneously, we created two new ... [Read more...](#)

67. A nomogram prediction model for hungry bone syndrome in dialysis patients with secondary hyperparathyroidism after total parathyroidectomy

29-03-2024 - National Library of Medicine

CONCLUSIONS: Preoperative iPTH and preoperative ALP are the risk factors for postoperative HBS, which can be used to guide the early clinical intervention. [Read more...](#)

68. Miao medicine Gu Yan Xiao tincture inhibits mTOR to stimulate chondrocyte autophagy in a rabbit model of osteoarthritis

28-03-2024 - National Library of Medicine

CONCLUSIONS: Gu Yan Xiao tincture mitigates tissue injury in a rabbit model of osteoarthritis, at least in part by inhibiting mTOR and thereby promoting autophagy in chondrocytes. These results rationalize the use of the tincture not only against osteoarthritis but also potentially other diseases involving inhibition of autophagy in bones and joints. [Read more...](#)

69. Prognostic modeling in early rheumatoid arthritis: reconsidering the predictive role of disease activity scores

27-03-2024 - National Library of Medicine

CONCLUSION: In our study of mHAQ prediction in RA patients receiving treat-to-target therapy, patient-reported outcomes were most consistently predictive of function. Patients with high disease activity due predominantly to tenderness scores rather than swelling may benefit from less aggressive treatment escalation and an emphasis on non-pharmacological therapies, ... [Read more...](#)

70. Identification of Neural and Non-Neural Origins of Joint Hyper-Resistance Based on a Novel Neuromechanical Model

25-03-2024 - National Library of Medicine

Joint hyper-resistance is a common symptom in neurological disorders. It has both neural and non-neural origins, but it has been challenging to distinguish different origins based on clinical tests alone. Combining instrumented tests with parameter identification based on a neuromechanical model may allow us to dissociate the different origins of joint hyper-resistance in individual patients. [Read more...](#)

71. CHRONIC CRITICAL ILLNESS-INDUCED MUSCLE ATROPHY: INSIGHTS FROM A TRAUMA MOUSE MODEL AND POTENTIAL MECHANISM MEDIATED VIA SERUM AMYLOID A

22-03-2024 - National Library of Medicine

Background: Chronic critical illness (CCI), which was characterized by persistent inflammation, immunosuppression, and catabolism syndrome (PICS), often leads to muscle atrophy. Serum amyloid A (SAA), a protein upregulated in critical illness myopathy, may play a crucial role in these processes. However, the effects of SAA on muscle atrophy in PICS require further investigation. [Read more...](#)

72. Cross-species modeling of muscular dystrophy in *Caenorhabditis elegans* using patient-derived extracellular vesicles

19-03-2024 - National Library of Medicine

Reliable disease models are critical for medicine advancement. Here, we established a versatile human disease model system using patient-derived extracellular vesicles (EVs), which transfer a pathology-inducing cargo from a patient to a recipient naïve model organism. As a proof of principle, we applied EVs from the serum of patients with muscular dystrophy to *Caenorhabditis elegans* and ... [Read more...](#)

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