



Musculoskeletal Health Current Awareness Update

January 2024

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

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

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

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The Rise of Unapproved Stem Cell Treatments for Long COVID

26 Dec 2023

This Medical News article discusses a new study that identified how business have pivoted marketing of unapproved stem cell and exosome products from COVID-19 to long COVID.

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Prevention of MSK conditions across the life course

Osteoporosis as Perceived by Saudi Physicians: A Cross-Sectional Study of Quality of Practice and Current Barriers in Management

29 Dec 2023

Background Osteoporosis (OP) is a state of abnormal bone quality and architecture that leads to fragility fractures, with lifetime costs reaching 16.27 billion Saudi Arabian Riyal (SAR). Methods An electronic survey was distributed to physicians from July 2020 to May 2021 to assess the quality of the practice of physicians toward OP and barriers in OP management in Saudi Arabia

Role of menopausal hormone therapy in the prevention of postmenopausal osteoporosis

28 Dec 2023

The use of menopausal hormone therapy (MHT) has declined due to concerns about its potential side effects. However, its pivotal role in managing postmenopausal osteoporosis is gaining increased recognition. In this article, we explore how MHT assists postmenopausal women in maintaining bone health and preventing fractures

Race and ethnic differences in physical activity, osteopenia, and osteoporosis: results from NHANES 2009-2010, 2013-2014, 2017-2018

27 Dec 2023

CONCLUSION: Considering the prevalence and burden of osteopenia and osteoporosis, and projected increases in the racial and ethnic diversity of the older population, more research is needed to further understand the association between meeting the physical activity recommendation and bone health among racial and ethnic diverse older adults.

Knowledge of osteoporosis prevention among people with endocrine disorders: A cross-sectional study

27 Dec 2023

People with endocrine disorders are at an increased risk of osteoporosis, yet their knowledge of osteoporosis prevention is rarely studied. This study aimed to assess the knowledge related to osteoporosis prevention and its associated factors among people with endocrine disorders in China. A cross-sectional study was conducted in a Chinese hospital's Department of Metabolism and Endocrinology

Preventative and therapeutic potential of tocotrienols on musculoskeletal diseases in ageing

26 Dec 2023

Musculoskeletal health is paramount in an ageing population susceptible to conditions such as osteoporosis, arthritis and fractures. Age-related changes in bone, muscle, and joint function result in declining musculoskeletal health, reduced mobility, increased risk of falls, and persistent discomfort

Methodological guidance for the use of real-world data to measure exposure and utilization patterns of osteoporosis medications

25 Dec 2023

Observational studies of osteoporosis medications can provide critical real-world evidence (RWE) that fills knowledge gaps left by clinical trials. However, careful consideration of study design is needed to yield reliable estimates of association

A Systems Approach for Assessing Low Back Pain Care Quality in Veterans Health Administration Chiropractic Visits: A Cross-Sectional Analysis

24 Dec 2023

CONCLUSION: This study explored a systemwide process for assessing components of care quality in VHA chiropractic visits for LBP. These results produced a potential framework for uniform assessment of care quality in VHA chiropractic visits for LBP and highlight potential areas for improvements in LBP care quality assessments.

Hand Grip Strength, Osteoporosis, and Quality of Life in Middle-Aged and Older Adults

23 Dec 2023

Background and Objectives: Hand grip strength (HGS) and osteoporosis are known to be closely related to the health condition of the elderly, respectively. Comprehensive studies including adults over middle age were insufficient. This study aimed to investigate the relationship between HGS with osteoporosis and health-related quality of life (HRQoL) in adults aged >40 years

Elements of exercise prescription in Randomised controlled trials of musculoskeletal rehabilitation in a one-on-one setting. A scoping review

23 Dec 2023

CONCLUSION: Many RCTs under report the development and prescription of exercise interventions, limiting replication of findings in clinical practice. A comprehensive framework is needed to ensure exercise prescription is adequately reported.

Lactobacillus Reuteri 6475 Prevents Bone Loss in a Clinically Relevant Oral Model of Glucocorticoid-Induced Osteoporosis in Male CD-1 Mice

22 Dec 2023

Glucocorticoids (GCs) are commonly used anti-inflammatory medications with significant side effects, including glucocorticoid-induced osteoporosis (GIO). We have previously demonstrated that chronic subcutaneous GC treatment in mice leads to gut barrier dysfunction and trabecular bone loss

Prevalence of Postural Changes and Musculoskeletal Disorders in Young Adults

22 Dec 2023

CONCLUSIONS: Out of 497 students, 403 were identified with postural changes. The high prevalence rate of identified musculoskeletal symptoms in the anatomical regions of the

neck, lumbar region, and shoulder raises the need for intervention in students. Gender appears to generate differences between men and women. Pain from multiple body sites is frequent among young adults.

Targeting Longevity Gene SLC13A5: A Novel Approach to Prevent Age-Related Bone Fragility and Osteoporosis

22 Dec 2023

Reduced expression of the plasma membrane citrate transporter SLC13A5, also known as INDY, has been linked to increased longevity and mitigated age-related cardiovascular and metabolic diseases. Citrate, a vital component of the tricarboxylic acid cycle, constitutes 1-5% of bone weight, binding to mineral apatite surfaces

Prevention of Work Absence Due to Back Pain: A Network Meta-Analysis

22 Dec 2023

This paper reviewed the most effective strategies for preventing work absence due to back pain (BP) and BP episodes (the number of people reporting back pain). We searched randomized controlled trials (RCTs) of prevention strategies for BP from previous meta-analyses, PubMed, CENTRAL, and Embase and conducted a network meta-analysis. Thirteen RCTs (2033 participants) were included

The association between anti-diabetic agents and osteoporosis, sarcopenia, and osteosarcopenia among Iranian older adults; Bushehr Elderly Health (BEH) program

22 Dec 2023

CONCLUSION: In conclusion, a protective association between consumption of second-generation sulfonylureas and osteoporosis was found. Moreover, a positive association was found between the consumption of meglitinides and osteosarcopenia. However, to support these findings, further studies are recommended.

The effects of upper- vs. lower-body aerobic exercise on perceived pain in individuals with chronic knee pain: a randomised crossover trial

21 Dec 2023

CONCLUSION: An acute bout of upper-body aerobic arm-ergometry exercise evoked a significant decrease in the affected knee joint pain in individuals with chronic knee pain of up to 24 h/1 day post-exercise compared with lower-body aerobic exercise. While the exact mechanisms remain unclear, upper-body exercise may offer a viable, novel therapeutic treatment for patients with chronic knee pain.

Retracted: Relationship between the Degree of Illness in Elderly Patients with Rheumatoid Arthritis and Parameters of Musculoskeletal Ultrasound and Oswestry Dysfunction Index and Clinical Value Analysis

21 Dec 2023

[This retracts the article DOI: 10.1155/2022/4307864].

Postural prevalence, time of day and spent time activities during smartphone weekday use among students: A survey to prevent musculoskeletal disorders

21 Dec 2023

The long time spent on smartphones in awkward postures exposes young users to the risk of developing musculoskeletal disorders (MSDs). This study aimed to investigate 1) how the

duration of smartphone use varies by the time of day and activities and 2) the risks of MSDs based on an analysis of the postures used when interacting with smartphones

The correlation between pregnancy-related low back pain and physical fitness evaluated by an index system of maternal physical fitness test

21 Dec 2023

To investigate incidence of pregnancy-related low back pain (LBP), evaluate physical fitness objectively during pregnancy and analyze the correlation between LBP and physical fitness of pregnant women, 180 pregnant women including 101 in mid-gestation (14-28 gestational weeks) and 79 in late-gestation (28-37 gestational weeks) were recruited and self-reported their LBP

Eldecalcitol prevents muscle loss and osteoporosis in disuse muscle atrophy via NF- κ B signaling in mice

20 Dec 2023

We investigated the effect of eldecalcitol on disuse muscle atrophy. C57BL/6J male mice aged 6 weeks were randomly assigned to control, tail suspension (TS), and TS-eldecalcitol-treated groups and were injected intraperitoneally twice a week with either vehicle (control and TS) or eldecalcitol at 3.5 or 5 ng for 3 weeks

Telemedicine for Patients with Musculoskeletal Pain Lacks High-Quality Evidence on Delivery Modes and Effectiveness: An Umbrella Review

20 Dec 2023

Background: Musculoskeletal (MSK) pain is the leading cause of disability worldwide. Telemedicine is of growing importance, yet impacts on treatment efficacy remain unclear. Objective: This umbrella review (CRD42022298047) examined the effectiveness of telemedicine interventions on pain intensity, disability, psychological function, quality of life, self-efficacy, and adverse events in MSK pain

Effect of aquatic exercise versus standard care on paraspinal and gluteal muscles morphology in individuals with chronic low back pain: a randomized controlled trial protocol

19 Dec 2023

BACKGROUND: Low back pain (LBP) is one of the most disabling diseases and a major health issue. Despite the evidence of a link between paraspinal and gluteal muscle dysfunction and LBP, it is unknown whether aquatic exercises can lead to improvements in paraspinal and gluteal muscle morphology and function, and whether improvements in overall muscle health are associated with improvements in

Perturbation-based Balance Training in Adults Aged above 55 years with Chronic Low Back Pain: A Comparison of Effects of Water versus Land Medium - A Preliminary Randomized Trial

19 Dec 2023

CONCLUSION: Possible key factors for future research are discussed in the realms of perturbation exercise in the elderly with CLBP.

The Influence of Active, Passive, and Manual Therapy Interventions for Low Back Pain on Opioid Prescription and Health Care Utilization

19 Dec 2023

CONCLUSION: Greater use of passive interventions for low back pain was associated with elevated odds of one-year escalation-of-care events. In addition, the use of specific passive interventions such as mechanical traction in conjunction with active interventions resulted in suboptimal escalation-of-care events, while the use of manual therapy was associated with more favorable downstream health

Correlation analysis of positron emission tomography/computed tomography-magnetic resonance imaging of cannabinoid type 1 receptor in the lumbar spine and brain of aged osteoporosis female cynomolgus monkeys

18 Dec 2023

CONCLUSIONS: In this study, PET/CT-MRI molecular imaging technology revealed that CB1R was upregulated in the lumbar spine and brain of the osteoporosis monkeys and that CB1R may be regulated by the brain-bone axis. CB1R antagonist may be a potential drug for the treatment of osteoporosis.

Male Osteoporosis and Frailty

18 Dec 2023

It is estimated that 50% women and 20% of men over the age of 50 years will have an osteoporosis-related fracture in their remaining life. Although, Osteoporosis is generally thought to be a disease affecting females, more than a third of hip fractures occur in males due to reduced bone strength. Along with Osteoporosis, the other pathological process which occurs simultaneously is Sarcopenia

Barriers and factors associated with adherence to a home exercise program of adults with musculoskeletal pain

18 Dec 2023

CONCLUSION: Age and participants' perception of sufficient instructions were significant factors for non-adherence. These results emphasize the importance of therapist-provided instructions to overcome barriers to adherence.

Sustained versus repetitive standing trunk extension results in greater spinal growth and pain improvement in back pain:A randomized clinical trial

18 Dec 2023

CONCLUSION: People with LBP experienced greater spine growth and improvements of pain during standing STE as compared to RTE. People with LBP could use such postures and movements to alleviate their LBP and improve spine height while in a weight bearing position.

Physical job demands in pregnancy and associated musculoskeletal health and employment outcomes: a systematic review

18 Dec 2023

CONCLUSION: Limited but consistent evidence suggests that pregnant workers exposed to heavy lifting and postural load are at increased risk of pelvic girdle pain and employment cessation. Job accommodations to reduce exposure levels may promote safe sustainable employment for pregnant workers.

Let's Move with Leon-A qualitative evaluation of a UK digital intervention to improve physical activity in people with a musculoskeletal condition

16 Dec 2023

CONCLUSION: Digital physical activity behaviour change interventions are not one-size-fits-all; personalisation is key. Monitoring of activity by a named person can create commitment. Many dip in and out. Digital physical activity behaviour change interventions could complement physiotherapy exercises for people with musculoskeletal conditions. Signposting to local activities should be considered.

Underlying motivations hampering Flemish primary care physicians from overcoming the barriers in osteoporosis care: an EMR-facilitated clinical reasoning study

16 Dec 2023

CONCLUSION: The intricate context in which PCPs operate, creates a competition for PCP attention leading to a lack of attention for fracture prevention. To preserve efforts in fracture prevention, areas of competition should be systematically addressed.

Retracted: Study on the Effect of Bushen Zhuanggu Tablet Combined with Conventional Regimen on Bone Mineral Density Improvement, Functional Recovery and Fracture Risk Prevention in Patients with Postmenopausal Osteoporosis

14 Dec 2023

[This retracts the article DOI: 10.1155/2023/4846392].

Addressing Occupational Back Pain: A Systematic Review of Preventive and Therapeutic Strategies

14 Dec 2023

Occupational back pain has emerged as a significant public health concern. Despite several efforts to mitigate the adverse effects of occupational back pain, this issue still persists across the globe. This systematic review summarizes the preventive and therapeutic options available for managing occupational back pain

Association between osteoporosis and cardiovascular disease in elderly people: evidence from a retrospective study

13 Dec 2023

CONCLUSION: This study provides evidence supporting the associations between osteoporosis, biochemical indexes, BMD, and cardiovascular disease. Aberrations in lipid profiles and homocysteine levels may contribute to osteoporosis development. Lower BMD, particularly in individuals with osteoporosis, appears to increase the risk of cardiovascular disease

The Impact of Exercise Prescription Variables on Intervention Outcomes in Musculoskeletal Pain: An Umbrella Review of Systematic Reviews

13 Dec 2023

CONCLUSION: High methodological quality evidence is lacking for optimal exercise training prescription variables in individuals with musculoskeletal pain. To better inform practice and evidence gaps, future systematic reviews should (1) identify optimum exercise prescription variables, for example, via dose-response (network) meta-analysis, (2) perform high-quality reviews per AMSTAR-2 criteria

Prevention and treatment of osteoporosis with natural products: Regulatory mechanism based on cell ferroptosis

12 Dec 2023

CONCLUSIONS: Natural products have great potential to regulate OBs and OCs by mediating ferroptosis to prevent and treat osteoporosis, and it is worthwhile to explore and discover more natural products that can prevent and treat osteoporosis.

Estimating individual health-related quality of life changes in low back pain patients

12 Dec 2023

CONCLUSIONS: We recommend that in research studies estimates of the magnitude of individual change needed for statistical significance be provided for multiple reliability and standard deviation estimates

Water-Based Exercise in Patients With Nonspecific Chronic Low-Back Pain: A Systematic Review With Meta-Analysis

12 Dec 2023

Babiloni-Lopez, C, Fritz, N, Ramirez-Campillo, R, and Colado, JC. Water-based exercise in patients with nonspecific chronic low-back pain: a systematic review with meta-analysis. *J Strength Cond Res* 38(1): 206-219, 2024-This study aimed to systematically review and synthesize evidence (i.e., active [land-based training] and nonactive controls [e.g

The role of bone modifying agents for secondary osteoporosis prevention and pain control in post-menopausal osteopenic breast cancer patients undergoing adjuvant aromatase inhibitors

11 Dec 2023

INTRODUCTION: Hormonal therapy (HT) blocks the hormone-mediated growth signal dramatically reducing estrogenic levels with aromatase inhibitors (AIs) becoming a crucial component of the treatment mainstay in patients with early breast cancer (BC)

Retracted: Meta-Analysis of Tai Chi Chuan in Treating Lumbar Spondylosis and Back Pain

11 Dec 2023

[This retracts the article DOI: 10.1155/2022/2759977].

Are patients picking up what we are putting down? Considering nocebo effects in exercise for musculoskeletal pain

11 Dec 2023

No abstract

Physical measures of physical functioning as prognostic factors to predict outcomes in low back pain: Protocol for a systematic review

11 Dec 2023

BACKGROUND: Low back pain (LBP) is a highly prevalent condition that substantially impairs individuals' physical functioning. This highlights the need for effective management strategies to improve patient outcomes

Association of persistent musculoskeletal pain with dementia risk score in adults aged 45 years or older: The China health and retirement longitudinal study

11 Dec 2023

CONCLUSIONS: Promoting the management of musculoskeletal pain may be beneficial in reducing the dementia risk score.

Comparison of allogeneic transplant outcomes between matched sibling donors and alternative donors in patients over 50 years of age with acute myeloid leukemia: 8/8 allele-matched unrelated donors and unrelated cord blood provide better leukemia-free survival compared with matched sibling donors during non-remission status: MSD vs alternative donors transplant for patients over 50 years of age with AML

11 Dec 2023

CONCLUSION: Our registry-based study demonstrated that MSDs do not lead to superior survival compared to alternative donors for patients with AML over 50 years of age. Furthermore, 8/8 allele-MUDs and UCB provide better LFS compared with MSDs during non-remission status. Therefore, MSD is not necessarily the best donor option for allogeneic HCT in this population.

Healthcare Resource Utilization for Chronic Low Back Pain among High-Utilizers

11 Dec 2023

CONCLUSION: This is one of the first studies to use an administrative claims database to identify high healthcare resource utilizers among a population of US individuals with non-surgical, chronic low back pain and follow their utilization over time

The effect of self-management techniques on relevant outcomes in chronic low back pain: A systematic review and meta-analysis

10 Dec 2023

CONCLUSION: In summary, we were able to substantiate recent evidence that digital self-management interventions are effective in the treatment of CLBP. Given the heterogeneity of interventions, further research should aim to investigate which patients benefit most from which approach.

Cross-cultural adaptation and validation of the Mental Health Quality of Life (MHQoL) questionnaire in a Chinese-speaking population with chronic musculoskeletal pain

09 Dec 2023

CONCLUSION: The Chinese version of the MHQoL can be used in clinical practice and research in Chinese-speaking CMP patients.

Exploring In Vivo Models of Musculoskeletal Frailty: A Comprehensive Systematic Review

09 Dec 2023

Musculoskeletal frailty-a common and debilitating condition linked to aging and chronic diseases-presents a major public health issue. In vivo models have become a key tool for researchers as they investigate the condition's underlying mechanisms and develop effective interventions

Efficacy of aquatic exercise in chronic musculoskeletal disorders: a systematic review and meta-analysis of randomized controlled trials

09 Dec 2023

CONCLUSIONS: This is the first systematic review and meta-analysis to study whether AE could improve chronic musculoskeletal disorders. The evidence suggests that AE benefits pain, physical function, and quality of life in adults with chronic musculoskeletal conditions compared to NE. Furthermore, when compared to LE, AE continues to provide a better improvement in patient pain

KeepRunning: A MoCap-Based Rapid Test to Prevent Musculoskeletal Running Injuries

09 Dec 2023

The worldwide popularisation of running as a sport and recreational practice has led to a high rate of musculoskeletal injuries, usually caused by a lack of knowledge about the most suitable running technique for each runner. This running technique is determined by a runner's anthropometric body characteristics, dexterity and skill

Physical activity and health-related quality of life of patients with chronic knee pain after total knee replacement: Analysis of the PEP-TALK trial

09 Dec 2023

CONCLUSIONS: Monitoring clinical outcomes after six months may be indicated for those at risk of chronic pain post-TKR. Further, sufficiently powered analyses are warranted to increase the generalisability of this exploratory analyses' results.

Bone Health Screening Prior to Medicare Eligibility-Osteoporosis Screening and Fracture Prevention After Distal Radius Fractures in Patients Aged 50-59

09 Dec 2023

CONCLUSIONS: We report a low BMD testing rate for patients aged between 50 and 59 years after initial isolated DRFs, especially for men and patients aged between 50 and 54 years. Patients who received BMD testing had a lower rate of subsequent fracture within 3 years

Comparative Analysis of Therapeutic Outcomes and Prognoses Among Osteoporosis Patients with Varied Bone Mineral Density T-Values Following Percutaneous Kyphoplasty

08 Dec 2023

CONCLUSION: In PKP for OSF, lower BMD-T correlates with improved correction but is also associated with a higher likelihood of cement leakage.

Early Functional Outcomes in Low Back Pain Subjects with a Novel Interspinous Fusion Device: REFINE Study 6-Month Results

07 Dec 2023

CONCLUSION: This 6-month interim analysis at 42% enrollment of patients was conducted to determine prolonged safety and efficacy of the interspinous fusion device. Our analysis showed a sustained improvement in clinical efficacy, and safety endpoints, when compared to the 3-months evaluations, across both interventional pain and neurosurgery specialties.

Nine recommendations for the emergency department for patients presenting with low back pain based on management and post-discharge outcomes in an Australian, tertiary emergency department

06 Dec 2023

CONCLUSION: ED presentations for LBP were more often treated pharmacologically than non-pharmacologically, with opioids commonly prescribed and NSAIDs potentially under-utilised. Post-discharge, additional investigations/referrals, discharge analgesia reductions and maintenance of non-pharmacological management were common

Are the attitudes and beliefs of Australian exercise-based practitioners associated with their use of, and confidence in, treatment modalities for people with chronic low back pain?

06 Dec 2023

CONCLUSION: Practitioner beliefs influence their use of, and confidence in different treatments for CLBP. These findings suggest a need for strategies to enhance biopsychosocial beliefs/reduce biomedical beliefs in Australian exercise-based practitioners.

Utilizing MSK Ultrasound for Comprehensive Assessment of the Femoral Trochlea: A Game Changer in Sports Medicine

05 Dec 2023

Musculoskeletal (MSK) ultrasound has emerged as a valuable tool for sports physical therapists in the assessment and treatment of various knee pathologies. Its ability to provide high-resolution images of soft tissue and superficial bone surfaces makes it especially useful for sports physical therapists and orthopedic clinicians

How back pain influences daily activities and quality of life: Incidence of back pain related to age

05 Dec 2023

Low back pain is a prevalent global musculoskeletal issue, with a lifetime prevalence ranging from 49% to 70% in adults. Traditionally associated with adults, recent field surveys indicate comparable prevalence rates in children and adolescents, challenging earlier assumptions

Individual and combined associations of sarcopenia, osteoporosis and obesity with frailty in a multi-ethnic asian older adult population

05 Dec 2023

CONCLUSION: The prevalence of SP, OB and OP, alone and combined, is substantial in older Asians and their early identification is needed to mitigate the risk of frailty. OB may interact with SP in an antagonistic manner to moderate rates of frailty. Further longitudinal studies are needed to address causality and mechanistic underpinnings our findings.

Activating transcriptional coactivator with PDZ-binding motif by (R)-PFI-2 attenuates osteoclastogenesis and prevents ovariectomized-induced osteoporosis

04 Dec 2023

Excessive osteoclast activation is a leading cause of osteoporosis. Therefore, identifying molecular targets and relevant pharmaceuticals that inhibit osteoclastogenesis is of substantial clinical importance

Trajectory of metabolic syndrome and its association with knee pain in middle-aged adults

03 Dec 2023

CONCLUSION: In this sample of middle-aged adults, there was a significant positive association between MetS and knee symptoms. Relative to those without MetS at either life stage, the elevation in mean knee pain scores was more pronounced for those who developed MetS after young adulthood than for those who had MetS in young adulthood.

Application of an in-hospital, surgeon-led anti-osteoporotic medication algorithm in patients with hip fractures improves persistence to medication and can prevent the second fragility fracture

03 Dec 2023

CONCLUSION: The application of the surgeon-led AO Foundation algorithm enables the in-hospital initiation of anti-osteoporotic treatment, leading to better persistence to medication and decreased incidence of secondary osteoporotic fractures.

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Living well with MSK conditions

[Evaluation of psoriasis patients with long-term topical corticosteroids for their risk of developing adrenal insufficiency, Cushing's syndrome and osteoporosis](#)

29 Dec 2023

CONCLUSIONS: Our study is the first study that we know of that investigated these three side effects. We have shown that the development of CS, adrenal insufficiency and osteoporosis in patients who use topical steroids for a long time depends on the weekly TCS dosage and the risk increases when it exceeds the threshold of 50 grams per week

[Screening of Fracture Risk and Osteoporosis Among Older Long-term Care Residents: A Prospective Study](#)

28 Dec 2023

This prospective study assessed the effectiveness of screening older long-term care residents (LTCRs) for fracture risk and osteoporosis in Taiwan. Fracture risk screening was done using the Fracture Risk Assessment Tool (FRAX), and those with high or moderate risk were offered osteoporosis workup and treatment at the hospital. Among 785 LTCRs screened, 338 men (mean age 75

[Experiences of patients with chronic low back pain plus comorbid depressive symptoms in a videoconference group acceptance and commitment therapy or behavioral activation treatment for depression: a qualitative study](#)

27 Dec 2023

CONCLUSION: This study provided support for the acceptability of videoconference-delivered ACT or BATD in patients with CLBP plus comorbid depressive symptoms.

[Prevalence of and risk factors for sarcopenia in community-dwelling people: The Vietnam Osteoporosis Study](#)

26 Dec 2023

CONCLUSIONS: Sarcopenia is common in community-dwelling Vietnamese adults, particularly those with advancing age, who are underweight and with low physical activity.

[A decision support system for osteoporosis risk prediction using machine learning and explainable artificial intelligence](#)

25 Dec 2023

Osteoporosis is a metabolic bone condition that occurs when bone mineral density and mass decrease. This makes the bones weak and brittle. The disorder is often undiagnosed and untreated due to its asymptomatic nature until the manifestation of a fracture

Early onset age increases the risk of musculoskeletal damage in patients with type 2 diabetes

25 Dec 2023

CONCLUSION: EOT2D brings a greater risk of sarcopenia and/or osteoporosis, as well as a higher risk of reduced ASM and BMD. In addition, fat distribution may be more central.

Efficacy and safety of denosumab treatment for Korean patients with Stage 3b-4 chronic kidney disease and osteoporosis

25 Dec 2023

CONCLUSIONS: If carefully monitored and supplemented with calcium and vitamin D, denosumab treatment for 1 year provides significant benefits in patients with Stage 3b-4 CKD and osteoporosis. However, denosumab treatment did not affect coronary artery calcifications in these patients.

Prevalence and Risk Factors of Osteoporosis in a Chinese Population: A Cross-Sectional Study in Xi'an, Shaanxi Province, China

24 Dec 2023

BACKGROUND Osteoporosis is a systemic chronic disease characterized by bone mineral density (BMD) reduction. This study aimed to assess the prevalence of osteoporosis and fracture risks in northwestern China and investigate the related anthropometric risk factors

The Association of Psychological Variants with Back Pain, Muscle Endurance, and Functional Limitations in an Individual with Chronic Back Pain

23 Dec 2023

Chronic low back pain (CLBP) substantially impacts quality of life through a multifarious interplay of physical and psychological elements. A comprehensive understanding of this relationship is imperative for developing effective treatment strategies

Higher risk of osteoporosis in adult-onset asthma than childhood-onset asthma: from genetic and prospective evidence

23 Dec 2023

CONCLUSIONS: Both COA and AOA have a genetically causal effect on osteoporosis, and the risk of osteoporosis is greatly higher in AOA. Besides corticosteroids, the increased risk of osteoporosis among asthma patients should be attributed to genetic susceptibility and other asthma medications.

Novel Techniques for Musculoskeletal Pain Management after Orthopedic Surgical Procedures: A Systematic Review

23 Dec 2023

Effective postoperative pain management is critical for recovery after orthopedic surgery, but often remains inadequate despite multimodal analgesia. This systematic review synthesizes evidence on innovative modalities for enhancing pain control following major orthopedic procedures

Lifestyle factors and psychological factors are associated with central pain processing in service members with persistent low-back pain: A cross-sectional exploratory study

22 Dec 2023

Persistent low-back pain (LBP) is highly prevalent in the military. Altered central pain processing is one of the mechanisms found to underlie persistent LBP. Our aim was to explore which factors are associated with altered pain processing in Dutch service members with persistent LBP

Implementation of digital health in rural populations with chronic musculoskeletal conditions: A scoping review protocol

22 Dec 2023

Musculoskeletal conditions are a major source of disability worldwide, and its burden have been rising in the last decades. Rural areas, in particular, are associated with higher prevalence of these conditions as well as higher levels of disability, which is likely related to other determinants that affect these communities

Identifying special operative trainees at-risk for musculoskeletal injury using full body kinematics

21 Dec 2023

Introduction: Non-combat musculoskeletal injuries (MSKIs) during military training significantly impede the US military's functionality, with an annual cost exceeding \$3.7 billion. This study aimed to investigate the effectiveness of a markerless motion capture system and full-body biomechanical movement pattern assessments to predict MSKI risk among military trainees

Topical Chinese patent medicines for chronic musculoskeletal pain: systematic review and trial sequential analysis

21 Dec 2023

CONCLUSION: Most studies showed superior analgesic effects of topical CPM over various control treatments, suggesting that topical CPM may be effective for CMP and is an additional, safe and reasonable treatment option. These reported benefits should be validated in higher-quality RCTs.

Ergonomic saddle design features influence lumbar spine motion and can reduce low back pain in mountain biking

21 Dec 2023

Low back pain is common in mountain biking due to the sustained flexion of the lumbar spine, particularly during fatiguing hill climbs. In this study, we investigated whether an ergonomic mountain bike saddle including a raised rear, a longitudinal dip, and a subtle lateral instability (the 'Active'-technology) can reduce acute low back pain at the end of a hill climb (>1 h) in a group of

The relationship between dietary inflammatory index and osteoporosis among chronic kidney disease population

21 Dec 2023

Dietary inflammation index (DII) is an epidemiological survey tool to evaluate dietary inflammation potential. Osteoporosis, whose development is deeply affected by inflammation, may be also affected by dietary inflammatory patterns. However, the relationship between DII and osteoporosis is unclear for chronic kidney disease (CKD) population

Battlefield acupuncture for chronic musculoskeletal pain in cancer survivors: a novel care delivery model for oncology acupuncture

20 Dec 2023

CONCLUSION: Specific factors may predict the likelihood of achieving meaningful pain reduction from BFA. Understanding these predictors could inform precision pain management and acupuncture delivery models.

Associations of metabolic dysfunction-associated fatty liver disease and hepatic fibrosis with bone mineral density and risk of osteopenia/osteoporosis in T2DM patients

20 Dec 2023

CONCLUSION: MAFLD and hepatic fibrosis were not significantly associated with BMD and risk of osteopenia/osteoporosis independent of obesity. Nevertheless, screening and management of MAFLD and osteopenia/osteoporosis were still important for the prevention of fracture in T2DM patients.

Examining psychological factors as contributors to pain, disability, and physical function in geriatric chronic low back pain: a prospective analysis of the Delaware Spine Studies cohort

20 Dec 2023

In younger populations, risk factors from psychologically-focused theoretical models have become accepted as primary drivers behind the persistence of low back pain (LBP), but these risk factors have not been thoroughly assessed in older adult populations (60-85 years)

Lower individual alpha frequency in individuals with chronic low back pain and fear of movement

19 Dec 2023

Significant progress has been made in linking measures of individual alpha frequency (IAF) and pain. A lower IAF has been associated with chronic neuropathic pain and with an increased sensitivity to pain in healthy young adults. However, the translation of these findings to chronic low back pain (cLBP) are sparse and inconsistent

The effectiveness of ibandronate in reducing the risk of nonvertebral fractures in women with osteoporosis: systematic review and meta-analysis of observational studies

19 Dec 2023

CONCLUSION: Results suggest that once-monthly 150 mg oral ibandronate may be as effective as other oral bisphosphonates in reducing the risk of nonvertebral fractures. However, uncertainty associated to the small number of included studies, which are characterized by heterogeneous demographics and methodologies, precluded definitive conclusions.

How movement is assessed matters. Changes in forward bending during Cognitive Functional Therapy treatment for people with chronic low back pain

19 Dec 2023

OBJECTIVE: To investigate forward bending range of motion (ROM) and velocity in patients with low back pain (LBP) who were receiving Cognitive Functional Therapy (CFT) and determine: (1) the amount and timing of change occurring at the trunk and pelvis (global angles), and lumbar spine (intersensor angle), and (2a) differences in changes between participants with and without sensor biofeedback,

Influence of central aspects of pain on self-management in people with chronic low back pain

19 Dec 2023

CONCLUSIONS: Central aspects of pain are associated with impaired self-management, over and above effects of pain intensity, fatigue, depression and catastrophizing.

Brain Wave Patterns in Patients With Chronic Low Back Pain: A Case-control Study

18 Dec 2023

CONCLUSION: The increased absolute power of brain waves in people with CLBP may indicate cortical overactivity and changes in the pain processing mechanisms in these patients.

Restorative neurostimulation for chronic mechanical low back pain - Three year results from the United Kingdom post market clinical follow-up registry

18 Dec 2023

CONCLUSIONS: The ongoing follow-up of this post market cohort continues to demonstrate that restorative neurostimulation provides a statistically significant, clinically meaningful and durable response across pain, disability and quality-of life scores for patients suffering chronic mechanical low back pain that has been refractory to conventional management.

Pain Management in Osteoporosis

18 Dec 2023

The most prevalent metabolic bone disease, osteoporosis, is characterized by a decrease in bone mineral density and alterations to the bone's microstructure, both of which can result in fragility fractures. It affects a significant section of the population. Acute or chronic pain from these fractures is typical in elderly adults with other coexisting conditions

Osteoporosis Update: Screening and Treatment Recommendations

18 Dec 2023

No abstract

The Evolution of Neuroimaging Technologies to Evaluate Neural Activity Related to Knee Pain and Injury Risk

18 Dec 2023

PURPOSE OF REVIEW: In this review, we present recent findings and advancements in the use of neuroimaging to evaluate neural activity relative to ACL injury risk and patellofemoral pain. In particular, we describe prior work using fMRI and EEG that demonstrate the value of these techniques as well as the necessity of continued development in this area

Investigation of the Relevant Factors in the Complexity of Chronic Low Back Pain Patients With a Physiotherapy Prescription: A Network Analysis Approach Comparing Chronic Pain-Free Individuals and Chronic Patients: Erratum

14 Dec 2023

No abstract

Oxygen-ozone autohemotherapy in breast cancer patients suffering from fatigue and musculoskeletal pain upon aromatase inhibitors treatment: a case-series study

14 Dec 2023

CONCLUSIONS: The oxygen-ozone therapy is a sound opportunity for breast cancer patients to reduce anti-aromatase-induced pain, fatigue, and musculoskeletal symptoms.

Pain catastrophizing and risk of progression to widespread pain among patients with chronic low back pain: A retrospective cohort study

14 Dec 2023

CONCLUSIONS: Pain catastrophizing appears to be an independent risk factor for progression to CWP among patients with chronic low back pain. These findings provide a rationale for interventions aimed at reducing pain catastrophizing, including rumination, magnification, and helplessness, among patients with chronic low back pain.

Correction: Efficacy of non-pharmacological interventions: a systematic review informing the 2023 EULAR recommendations for the management of fatigue in people with inflammatory rheumatic and musculoskeletal diseases

14 Dec 2023

No abstract

Observational Study to Assess the Efficacy and Safety of Microcurrent Therapy with a Portable Device in Patients Suffering from Chronic Back Pain, Skeletal System Pain, Fibromyalgia, Migraine or Depression

13 Dec 2023

CONCLUSION: Microcurrent therapy has been demonstrated to be efficient and safe under real-world conditions for the treatment of each of the conditions for which the device is certified.

Corrigendum: Machine learning clinical decision support for interdisciplinary multimodal chronic musculoskeletal pain treatment

13 Dec 2023

[This corrects the article DOI: 10.3389/fpain.2023.1177070].

Effectiveness of Long-Term Opioid Therapy for Chronic Low Back Pain

13 Dec 2023

CONCLUSIONS: Using LTOT for up to 12 months is not more effective in improving CLBP outcomes than treatment without opioids. Clinicians should consider tapering opioid dosage among LTOT users in accordance with clinical practice guidelines.

Development of a Platform to Assess the Risk of Musculoskeletal Disorders in Manual Load Handling Activities - Preliminary Results

12 Dec 2023

Risk identification on workstations is a crucial step to prevent the occurrence of musculoskeletal disorders (MSD) in workers. The available methods and tools used by ergonomists to assess and estimate the risk related to manual handling of loads under repetitive work cycles are usually biased by the inter-evaluator error that can lead to a subjective determination of work-related risks due to

Machine Learning for Risk Factor Identification and Cardiovascular Mortality Prediction Among Patients with Osteoporosis

12 Dec 2023

Risk prediction tools are increasingly popular aids in clinical decision-making. However, the underlying models are often trained on data from general patient cohorts and may not be representative of and suitable for use with targeted patient groups in actual clinical practice, such as in the case of osteoporosis patients who may be at elevated risk of mortality

Association Between Chronic Back Pain and Protective Behaviors is Subjective and Context Dependent

12 Dec 2023

Chronic lower back (CLB) pain limits patients' day-to-day activities, increases their missed days of work, and causes emotional distress. Developing adequate and individual-tailored treatment for CLB patients requires a better understanding of pain and protective behaviors, and how these behaviors are modulated or altered by context and subjectivity

Association of bone mineral density and potential risk factors for osteoporosis in patients with severe haemophilia A

12 Dec 2023

CONCLUSIONS: This study confirms the prevalence of low BMD and BMC in patients with haemophilia in Poland. Factors that contribute to low BMD are primarily vitamin D deficiency, low BMI, high neutrophil/lymphocyte ratio, and low testosterone/oestradiol ratio.

Dasatinib-Triggered Severe Hypocalcemia in a Patient with Chronic Kidney Disease and Osteoporosis

12 Dec 2023

Given the increasing prevalence of chronic myeloid leukemia (CML) in older individuals, careful selection of tyrosine kinase inhibitors (TKIs) is required. The case of an 84-year-old woman with chronic-phase CML and chronic kidney disease undergoing osteoporosis, in whom dasatinib triggered severe hypocalcemia, is reported. She was intolerant to both imatinib and nilotinib

Osteoporosis and Fracture Risk Following Benign Hysterectomy Among Female Patients in Korea

12 Dec 2023

CONCLUSIONS AND RELEVANCE: Hysterectomy without an adnexal surgical procedure was associated with an increased osteoporosis risk within 7 years, but not afterwards, compared with the nonhysterectomy group. Hysterectomy was not associated with vertebral and hip fractures.

Knowledge, Attitude, and Behavior Levels of Postmenopausal Women about Osteoporosis

11 Dec 2023

CONCLUSIONS: Even in postmenopausal women who are aware that they are in the risk group and that they should have BMD, their knowledge, attitude, and behavior levels on osteoporosis were found to be quite low.

Pain neuroscience education in patients with chronic musculoskeletal pain: an umbrella review

11 Dec 2023

INTRODUCTION: In recent years, pain neuroscience education (PNE) has been the focus of extensive research in the scientific literature in the field of physical therapy, but the results obtained are controversial and its clinical application remains unclear. The main aim of this umbrella review was to assess the effectiveness of PNE in patients with chronic musculoskeletal pain (CMP).

The significance of combined OSTA, HU value and VBQ score in osteoporosis screening before spinal surgery

11 Dec 2023

CONCLUSIONS: The combined use of OSTA, HU values, and VBQ scores in preoperative OP screening for spinal surgery demonstrates significantly higher accuracy and superior screening value compared to individual assessments. These results establish a robust scientific foundation for conducting preoperative OP screening in patients undergoing spinal surgery.

Patterns of Opioid Prescriptions in the Veterans Health Administration for Patients with Chronic Low-Back Pain after the Onset of the COVID-19 Pandemic: A Retrospective Cohort Analysis

10 Dec 2023

The COVID-19 pandemic led to severe disruptions in healthcare and a relaxation of rules surrounding opioid prescribing-changes which led to concerns about increased reliance on opioids for chronic pain and a resurgence of opioid-related harms

In trials of physiotherapy for chronic low back pain, clinical relevance is rarely interpreted, with great heterogeneity in the frameworks and thresholds used: a meta-research study

10 Dec 2023

CONCLUSION: Little attention is given to the interpretation of clinical relevance in RCTs comparing physiotherapy with no intervention in CLBP, with great heterogeneity in the frameworks and thresholds used

Short-segment spinal fusion for chronic low back pain with bone marrow edema adjacent to the vertebral endplate in adult spinal deformity

10 Dec 2023

CONCLUSIONS: Short-segment spinal fusion is effective for treating LBP and spinal deformity with BME adjacent to the vertebral endplate without spinal correction.

Effect of different types of Tai Chi exercise programs on the rate of change in bone mineral density in middle-aged adults at risk of osteoporosis: a randomized controlled trial

10 Dec 2023

CONCLUSION: These three TC exercise programs have similar positive effects on the BMD of the femoral neck and greater trochanter. However, compared with other exercise schemes, 24TCC showed a more significant improvement in BMD of the L2-L4 lumbar vertebrae region after just 8 weeks, as well as a more pronounced improvement in BMD of Ward's triangle

Safety and Feasibility of Intradiscal Administration of Matrilin-3-Primed Adipose-Derived Mesenchymal Stromal Cell Spheroids for Chronic Discogenic Low Back Pain: Phase 1 Clinical Trial

09 Dec 2023

Functionally enhanced mesenchymal stromal cells participate in the repair of intervertebral disc. This study aimed to assess the safety and tolerability of intradiscal administration of matrilin-3-primed adipose-derived stromal cell (ASC) spheroids with hyaluronic acid (HA) in patients with chronic discogenic low back pain (LBP)

Effects of Multidisciplinary Biopsychosocial Rehabilitation on Short-Term Pain and Disability in Chronic Low Back Pain: A Systematic Review with Network Meta-Analysis

09 Dec 2023

Chronic low back pain (CLBP) is a significant public health issue, with prevalence intensifying due to an ageing global population, amassing approximately 619 million cases in 2020 and projected to escalate to 843 million by 2050. In this study, we analyzed the effects of multidisciplinary biopsychosocial rehabilitation (MBR) on pain and disability

Racial Differences in Movement-Related Appraisals and Pain Behaviors among Adults with Chronic Low Back Pain

08 Dec 2023

Research documents racial disparities in chronic low back pain (CLBP). Few studies have examined racial disparities in movement-related appraisals and no studies have examined anticipatory appraisals prior to or pain behaviors during functional activities among individuals with CLBP

Low screening rates and high prevalence of osteoporosis in cirrhosis: A real-world retrospective analysis

07 Dec 2023

CONCLUSION: A minority of patients with cirrhosis were screened for osteoporosis. The majority screened had osteopenia or osteoporosis on DEXA scan. Less than a quarter of patients with osteoporosis were started on treatment. Real-world experience of oral bisphosphonate use did not reveal higher rates of gastrointestinal bleeding

The relationship between chronic diseases and the intensity and duration of low back pain

07 Dec 2023

CONCLUSIONS: The presence of chronic diseases was associated with a more intense and longer duration of LBP.

Phenytoin is associated with increased risk of osteoporosis and fragility fractures in adult epileptic patients

07 Dec 2023

CONCLUSION: Epileptic patients on phenytoin therapy that were 18-55 years old exhibited higher associated risk of osteoporosis and osteoporotic-fragility fractures of various regions. Patients that undergo phenytoin therapy for epilepsy treatment should be educated on the increased risk of bone fractures and have appropriate lifestyle and diet modifications.

Perceived discrimination and problematic opioid use among Black individuals with chronic musculoskeletal pain

07 Dec 2023

CONCLUSIONS: Systemic efforts to combat racism along with individualized therapeutic approaches to process and cope with perceived racial discrimination may be particularly

important to prevent and reduce problematic opioid use among Black individuals with CMP. (PsycInfo Database Record (c) 2023 APA, all rights reserved).

Large Extracervical Posterior Pedunculated Leiomyoma of the Uterus With the Only Symptom of Chronic Low Back Pain From Radiculopathy: A Case Report

07 Dec 2023

Large extra cervical-type posterior subserosal leiomyomas originating from the cervix are extremely rare. Our case concerns the surgical treatment of a large posterior pedunculated subserosal extracervical leiomyoma of the uterus with extension to the retroperitoneal space, which was associated with chronic low back pain

History of childbirth as a potential risk factor for musculoskeletal injury in military personnel

06 Dec 2023

No abstract

Long-term effects of deep-learning digital therapeutics on pain, movement control, and preliminary cost-effectiveness in low back pain: A randomized controlled trial

06 Dec 2023

CONCLUSIONS: Our results provide novel, promising clinical evidence that DPT was as effective as CPT in improving structural and functional impairment, activity limitation, and participation restriction. Our results highlight the successful incorporation of DPT intervention for clinical outcome measures, lower extremity strength, trunk mobility, ADL improvement, QOL improvement, and FMS in LBP.

Coronal plane in opportunistic screening of osteoporosis using computed tomography: comparison with axial and sagittal planes

06 Dec 2023

CONCLUSION: The coronal plane does not significantly differ from axial and sagittal planes in opportunistic screening of osteoporosis. Thus, the coronal plane as well as axial and sagittal planes can be used interchangeably in measuring bone mineral density using CT.

Efficacy of pharmacological interventions: a systematic review informing the 2023 EULAR recommendations for the management of fatigue in people with inflammatory rheumatic and musculoskeletal diseases

06 Dec 2023

CONCLUSIONS: Several pharmacological interventions are efficacious and generally safe for managing fatigue in people with I-RMDs.

Opioid Prescribing for Chronic Musculoskeletal Conditions: Trends over Time and Implementation of Safe Opioid-Prescribing Practices

06 Dec 2023

CONCLUSION: A CDS intervention was associated with a small improvement in percent of patients receiving an opioid, but not on average dose. Clinicians are not prescribing opioids for chronic musculoskeletal conditions frequently, when they do, they are generally adhering to guidelines.

2023 EULAR recommendations for the management of fatigue in people with inflammatory rheumatic and musculoskeletal diseases

05 Dec 2023

CONCLUSIONS: These 2023 EULAR recommendations provide consensus and up-to-date guidance on fatigue management in people with I-RMDs.

[Minimal important difference of the 12-item World Health Organization Disability Assessment Schedule \(WHODAS\) 2.0 in persons with chronic low back pain](#)

05 Dec 2023

CONCLUSIONS: Using an anchor-based approach, the MID of WHODAS-12 is estimated at -3.22 (95% CI -4.79 to -1.64) or -5.99 (95% CI - 7.20 to -4.79) in adults with chronic LBP. These MID values inform the utility of WHODAS-12 in measuring functioning to determine whether rehabilitation or other health services achieve a minimal difference that is meaningful to patients with chronic LBP.

[Evaluating the ergonomic deficiencies in computer workstations and investigating their correlation with reported musculoskeletal disorders and visual symptoms among computer users in Bangladeshi university](#)

04 Dec 2023

CONCLUSION: It is evident that MSDs and visual symptoms were associated with computer workstation deficiencies and other work-related factors.

[Comment on: Increased risk of osteoporosis and femoral neck fractures in patients with familial Mediterranean fever-a large retrospective cohort study](#)

04 Dec 2023

No abstract

[Comment on: Increased risk of osteoporosis and femoral neck fractures in patients with familial Mediterranean fever-a large retrospective cohort study: Reply](#)

04 Dec 2023

No abstract

[Increased risk of osteoporosis in patients with cognitive impairment: a systematic review and meta-analysis](#)

04 Dec 2023

CONCLUSION: Current evidence suggests that patients with cognitive impairment are at increased risk of osteoporosis, especially patients with AD.

[Effect of multidimensional physiotherapy on non-specific chronic low back pain: a randomized controlled trial](#)

04 Dec 2023

CONCLUSIONS: In this randomized controlled trial, multidimensional physiotherapy resulted in statistically and clinically significant improvements in pain compared to usual physiotherapy in individuals with NSCLBP at 10 and 22 weeks.

[Links between three chronic and age-related diseases, osteoarthritis, periodontitis, and osteoporosis, in a wild mammal \(moose\) population](#)

03 Dec 2023

CONCLUSIONS: Our results were consistent with the hypothesis that bacterial pathogens causing periodontitis are a risk factor for osteoarthritis and osteoporosis. They are also

consistent with the hypothesis that the inverse association between osteoarthritis and osteoporosis sometimes observed in humans may be influenced by shared risk factors, such as obesity, smoking or alcohol consumption,

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MSK in child and adolescent health

Pediatric Osteoporosis

18 Dec 2023

No abstract

Adolescent Boy With Left Knee Pain While Running

17 Dec 2023

No abstract

Dissemination of a Pediatric Musculoskeletal POCUS Scoring System via Virtual Education: A Proof-of-Concept Study

15 Dec 2023

Point of care pediatric musculoskeletal POCUS scanning and scoring protocols for childhood arthritis have emerged in recent years. However, pediatric musculoskeletal POCUS curricula in rheumatology fellowship programs are limited due to availability of trained faculty and resources

Does children's healthcare seeking change after participation in a musculoskeletal study? A register-based study

14 Dec 2023

CONCLUSION: Our findings suggest that research studies involving systematic engagement with participants experiencing musculoskeletal complaints can influence subsequent healthcare-seeking behaviour. Future research should address the influence of health literacy, health education, and healthcare provider recommendations on healthcare decisions during such research studies.

Controversies in the Management of Pediatric Musculoskeletal Infections: An International Viewpoint

13 Dec 2023

Pediatric musculoskeletal infections (MSIs) are a major contributor to the global burden of musculoskeletal disease in children and young adults. If untreated, or treated inappropriately or inadequately, pediatric bone and joint infections can be fatal or result in morbidity that causes significant functional disabilities to the patient and economic burden to the family and the community at large

Reduction of thoraco-lumbar kyphosis results in the alleviation of low back pain in an adolescent basketball player: a Chiropractic Biophysics® (CBP®) case report

11 Dec 2023

[Purpose] To present the case of a significant reduction in thoraco-lumbar deformity and alleviation of chronic low back pain in an otherwise healthy and active adolescent male basketball player. [Participant and Methods] A 17 year old was assessed with chronic low back pain persisting for 4 years. Radiographic assessment revealed a prominent thoraco-lumbar kyphosis

Characteristics of back pain in patients with adolescent idiopathic scoliosis: Considerations in candidates for corrective surgery

08 Dec 2023

CONCLUSION: The point and lifetime prevalence of back pain were definitely higher in patients with AIS, which affected their HRQOL. There was a relationship between pain around the right scapula and the right major thoracic curve with a rib hump deformity.

Clinical examination and imaging resources in children and adolescent back pain

05 Dec 2023

Back pain is a relatively common complaint in children and adolescents. The pediatric patient presenting with back pain can often be challenging, and there are many well-known organic diagnoses that should not be missed. In younger children, an organic cause of back pain can often be found. However, back pain in older children and adolescents is often "non-specific

Management of low back pain accompanying sagittal plane pathologies in children: Spondylolysis/spondylolisthesis and Scheuermann's disease

05 Dec 2023

BACKGROUND: Low back pain in childhood was underappreciated for a long time, but recent studies report higher prevalences, up to 70%. Two of the common causes are spondylolysis/spondylolisthesis and Scheuermann's disease. These disorders are relevant in a way they both cause significant back pain, and may disrupt the sagittal spinal balance.

Is sagittal spinopelvic alignment a cause of low back pain in pediatric spine pathologies? A review

05 Dec 2023

CONCLUSION: Most of the patients with spine disorders that occurred during growth present a clinically balanced posture in the sagittal plane. It suggests that compensatory mechanisms before achieving skeletal maturity are really significant

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MSK and multi-morbidity

Arterial stiffness and risk of new-onset fragility fracture in Chinese men and women: The Kailuan cohort study

23 Dec 2023

CONCLUSIONS: Arterial stiffness as measured by baPWV was associated with the risk of fragility fracture.

Musculoskeletal co-morbidities in patients with transthyretin amyloid cardiomyopathy: a systematic review

22 Dec 2023

The prevalence of transthyretin-associated amyloidosis cardiomyopathy (ATTR-CM) has grown because of newer non-invasive diagnosis tools. Detecting the presence of extra-cardiac ATTR manifestations such as musculoskeletal pathologies considered 'red flags', when there is minimal or non-cardiac clinical involvement is primordial to carry out an early diagnosis

Causations between obesity, diabetes, lifestyle factors and the risk of low back pain

20 Dec 2023

CONCLUSION: Our findings indicate a potential causal link between obesity, smoking, and coffee intake in the genesis of LBP, suggesting that mitigating these factors could contribute to LBP prevention.

Impact of Restricted Phosphorus, Calcium-adjusted Diet on Musculoskeletal and Mental Health in Hypophosphatasia

19 Dec 2023

CONCLUSION: Adjusting phosphorus and calcium intake may positively affect individual symptoms in adults with HPP, but overall clinical effectiveness regarding major issues like pain and endurance appears limited.

Demystifying the Risk Factors and Preventive Measures for Osteoporosis

18 Dec 2023

CONCLUSION: The role of emerging technologies such as Artificial Intelligence (AI) and perspectives such as newer diagnostic modalities, monitoring and surveillance approaches in prevention of risk factors in the pathogenesis of Osteoporosis is highlighted.

Osteoporosis and Obesity

18 Dec 2023

CONCLUSIONS: Physicians should keep a comprehensive approach to treating obese patients with osteoporosis, including lifestyle modifications, weight management, fall prevention strategies, and pharmacological interventions. Further research is needed to better understand the relationship between obesity and bone health.

Bidirectional Longitudinal Association between Back Pain and Loneliness in Later Life: Evidence from English Longitudinal Study of Ageing

17 Dec 2023

CONCLUSION: Loneliness may be a risk factor for back pain, and back pain may be a risk factor for loneliness. The results of this study will inform the development of more effective interventions for loneliness and back pain.

Polymorphisms in the glucagon-like peptide-1 receptor gene and their interactions on the risk of osteoporosis in postmenopausal Chinese women

14 Dec 2023

Postmenopausal osteoporosis (PMOP) is a prevalent form of primary osteoporosis, affecting over 40% of postmenopausal women. Previous studies have suggested a potential association between single nucleotide polymorphisms (SNPs) in glucagon-like peptide-1

receptor (GLP-1R) and PMOP in postmenopausal Chinese women. However, available evidence remains inconclusive

Effectiveness of romosozumab in patients with osteoporosis at high fracture risk: a Japanese real-world study

12 Dec 2023

CONCLUSION: This large-scale, multicenter chart review provides clinically relevant insights into the profiles of patients initiating romosozumab, effectiveness of real-world romosozumab use, and sequential therapy in Japanese patients at high risk of fracture.

The association between mechanical temporal summation, state anxiety at baseline, and persistent low back pain: a 12-month prospective cohort study

09 Dec 2023

CONCLUSION: This investigation did not reveal an association of mechanical TS and state anxiety at baseline with pain intensity during the one-year measurement period. Pain persistence, mediated by central sensitization, is a complex mechanism that single mechanical TS and state anxiety cannot capture.

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MSK health and inequalities

An exploration of knowledge-organizing technologies to advance transdisciplinary back pain research

29 Dec 2023

Chronic low back pain (LBP) is influenced by a broad spectrum of patient-specific factors as codified in domains of the biopsychosocial model (BSM). Operationalizing the BSM into research and clinical care is challenging because most investigators work in silos that concentrate on only one or two BSM domains

Comparison of artificial intelligence chatbots for musculoskeletal radiology procedure patient education

28 Dec 2023

No abstract

Interaction between Selected Adipokines and Musculoskeletal and Cardiovascular Systems: A Review of Current Knowledge

23 Dec 2023

Adipokines are substances secreted by adipose tissue that are receiving increasing attention. The approach to adipose tissue has changed in recent years, and it is no longer looked at as just a storage organ but its secretion and how it influences systems in the human body are also looked at. The role of adipokine seems crucial in developing future therapies for pathologies of selected systems

Lipoteichoic acid restrains macrophage senescence via β -catenin/FOXO1/REDD1 pathway in age-related osteoporosis

21 Dec 2023

Osteoporosis and its related fractures are common causes of morbidity and mortality in older adults, but its underlying molecular and cellular mechanisms remain largely unknown. In this study, we found that lipoteichoic acid (LTA) treatment could ameliorate age-related bone degeneration and attenuate intramedullary macrophage senescence

Exploring Causal Relationships between Leukocyte Telomere Length, Sex Hormone-Binding Globulin Levels, and Osteoporosis Using Univariable and Multivariable Mendelian Randomization

12 Dec 2023

CONCLUSION: Longer LTL may confer a protective effect against osteoporosis. Additionally, the levels of SHBG appear to play a crucial role in mediating the relationship between LTL and osteoporosis. By understanding the interplay between these factors, we can gain valuable insights into the mechanisms underlying bone health and aging and potentially identify new avenues for prevention and

Molecular mechanism of *Achyranthis bidentatae* radix and *Morindae officinalis* radix in osteoporosis therapy: An investigation based on network pharmacology, molecular docking, and molecular dynamics simulations

11 Dec 2023

CONCLUSION: This study preliminarily investigated the key targets, biological processes, and signaling pathways involved in the combined application of ABR and MOR for the treatment of OP. The results revealed that ABR-MOR may play a therapeutic role mainly by regulating immune-inflammatory responses, cellular biological processes, and osteoblast differentiation, which provides a theoretical

Emphasising the Need for a National Fragility Fracture Network for Pakistan (FFN-Pak)

08 Dec 2023

Null.

The diagnostic accuracy of straight leg raise test in patients more than 60 years of age suffering lumbar disk herniation with low back pain and sciatica

07 Dec 2023

CONCLUSION: It was found that with an increment in age, there is a steady decline in the diagnostic accuracy of SLR Test.

Network pharmacology-based pharmacological mechanism prediction of Lycii Fructus against postmenopausal osteoporosis

05 Dec 2023

Postmenopausal osteoporosis (PMOP) has become one of most frequent bone diseases worldwide with aging population. Lycii Fructus, a common plant fruit with the property of drug homologous food, has long since been used to treat PMOP. The aim of this study is to explore pharmacological mechanisms of Lycii Fructus against PMOP through using network pharmacology approach

Genetic, Immunological, Dietary, Gut Microbiota, and Environmental Determinants of Osteoporosis in the Course of Celiac Disease: Which Factor Plays the First Violin in This Orchestra?

04 Dec 2023

Celiac disease (CD) is a chronic small intestinal immune-mediated enteropathy precipitated by exposure to dietary gluten in genetically predisposed individuals. The worldwide prevalence of CD is estimated to be 0.7-1.4% of the general population. Etiopathology of this disease is multifactorial, with genetic determinants being a major contributing player to CD susceptibility

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MSK health and nutrition

[Comparative Analysis of Dietary and Supplemental Intake of Calcium and Vitamin D among Canadian Older Adults with Heart Disease and/or Osteoporosis in 2004 and 2015](#)

23 Dec 2023

Despite the role of calcium and vitamin D in osteoporosis and heart disease, little research has examined changes in the intake of calcium and vitamin D among individuals with these conditions over time

[Role of vitamins beyond vitamin D3 in bone health and osteoporosis \(Review\)](#)

08 Dec 2023

The objective of the present review was to summarize the molecular mechanisms associated with the effects of the vitamins A, C, E and K, and group B vitamins on bone and their potential roles in the development of osteoporosis

[Anti-osteoporosis properties of phosphorylated collagen peptide-magnesium chelates in osteoblast MC3T3-E1 cells and ovariectomized mice](#)

06 Dec 2023

No abstract

[The role of vitamin D in paediatric bone health](#)

04 Dec 2023

No abstract

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MSK health and workplace wellbeing

[Exposure-response relationship between work-related hand-arm-vibration exposure and musculoskeletal disorders of the upper extremities: The German Hand-Arm-Vibration Study](#)

19 Dec 2023

OBJECTIVE: To quantify the exposure-response relationship between hand-arm-vibration exposure and the risk of musculoskeletal disorders of upper extremities (UMSDs), a case-

control study was carried out among workers in the construction, mining, metal, and wood working industries.

Assessing Work Functioning in Patients with Persistent Low Back Pain: Exploring the Structural Validity of the Work Rehabilitation Questionnaire

15 Dec 2023

CONCLUSIONS: The WORQ is a valid instrument for evaluating work limitations in individuals with persistent LBP. Further research should assess its responsiveness to changes from interventions that target workability. Advancing this knowledge has the potential to promote work rehabilitation and improve the quality of life for patients with persistent LBP.

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MSK health data and surveillance

Influence of axial rotation on measurement of medial proximal tibial angle

22 Dec 2023

CONCLUSION: When a full-length X-ray film is taken on the weight-bearing position of both lower limbs, if there is axial rotation or external rotation of tibia, MPTA will increase or decrease compared with neutral position, which may cause a certain degree of deviation in clinical operation based on the accurate measurement of MPTA

Potentiating TRPA1 by Sea Anemone Peptide Ms 9a-1 Reduces Pain and Inflammation in a Model of Osteoarthritis

22 Dec 2023

Progressive articular surface degradation during arthritis causes ongoing pain and hyperalgesia that lead to the development of functional disability. TRPA1 channel significantly contributes to the activation of sensory neurons that initiate neurogenic inflammation and mediates pain signal transduction to the central nervous system

Qilian Formula Inhibits Tumor Cell Growth in a Bone Metastasis Model of Lung Cancer

22 Dec 2023

CONCLUSIONS: Our study demonstrated a significant inhibitory effect of the Qilian formula on the progression of osteolytic invasion in vivo by suppressing osteoclastogenesis and promoting apoptotic cell death.

A machine learning-based model for clinical prediction of distal metastasis in chondrosarcoma: a multicenter, retrospective study

22 Dec 2023

CONCLUSIONS: In this study, combined with adequate SEER case database and external validation with data from multicenter institutions in different geographic regions, we confirmed that CS, T, N, laterality, and grading of surgery and chemotherapy were independent risk factors for DM

Mouse Models of Orofacial Clefts: SHH and TGF- β Pathways

21 Dec 2023

Birth defects have always been one of the most important diseases in medical research as they affect the quality of the birth population. Orofacial clefts (OFCs) are common birth defects that place a huge burden on families and society. Early screening and prevention of OFCs can promote better natal and prenatal care and help to solve the problem of birth defects

Construction and preliminary validation of a risk prediction model for the recurrence of diabetic foot ulcer in diabetic patients

21 Dec 2023

Objective: To develop a risk prediction model for the recurrence of diabetic foot ulcer (DFU) in diabetic patients and primarily validate its predictive value. Methods: Meta-analysis combined with retrospective cohort study was conducted

Combination effect of Chinese kidney-tonifying granules and platelet-rich plasma gels on enhancing bone healing in rat models with femur defects

20 Dec 2023

CONCLUSIONS: These findings revealed the potential of BSZYKL in combination with PRP-G in improving bone defects.

Prediction Model for Postoperative Pressure Injury in Patients with Acute Type A Aortic Dissection

20 Dec 2023

CONCLUSIONS: This study built an efficient predictive model that could help identify high-risk patients.

The contribution of a novel PHEX gene mutation to X-linked hypophosphatemic rickets: a case report and an analysis of the gene mutation dosage effect in a rat model

20 Dec 2023

A Chinese family was identified to have two patients with rickets, an adult female and a male child (proband), both exhibiting signs related to X-linked hypophosphatemic rickets (XLH). Gene sequencing analysis revealed a deletion of adenine at position 1985 (c.1985delA) in the PHEX-encoding gene

Characteristic changes of blood stasis syndrome in rat model of steroid-induced femoral head necrosis based on the combination of disease, syndrome, and symptom

19 Dec 2023

The approach combining disease, syndrome, and symptom was employed to investigate the characteristic changes of blood stasis syndrome in a rat model of steroid-induced osteonecrosis of the femoral head (SONFH) during disease onset and progression. Seventy-two male SD rats were randomized into a healthy control group and a model group

A prediction model for osteonecrosis of femoral head after internal fixation with multiple cannulated compression screws for adult femoral neck fractures

18 Dec 2023

CONCLUSION: Age, comorbidity index, fracture type, reduction quality and postoperative removal of internal fixation implant are of utmost importance for postoperative ONFH in

patients with femoral neck fractures. The established nomogram prediction model can accurately predict the occurrence of postoperative ONFH.

Do metastatic volumes measured in breast cancer patients with bone metastases correlate with the numbers of skeletal and extraskeletal events?

18 Dec 2023

CONCLUSION: The study indicates that measuring metastatic volume may be a critical factor in evaluating the survival of breast cancer patients with bone metastases. Future prospective and randomized controlled studies can explore the potential of this measurement to create practical clinical tools.

Estimating health state utilities in Duchenne muscular dystrophy using the health utilities index and EQ-5D-5L

15 Dec 2023

CONCLUSIONS: In DMD, although a relationship between disease progression and HRQoL is observed, there is large variability in utility within functional health states, and across instruments. Utility values for less severe non-ambulatory health states described by level of upper limb function are novel

A non-invasive mouse model that recapitulates disuse-induced muscle atrophy in immobilized patients

14 Dec 2023

Disuse muscle atrophy occurs consequent to prolonged limb immobility or bed rest, which represents an unmet medical need. As existing animal models of limb immobilization often cause skin erosion, edema, and other untoward effects, we here report an alternative method via thermoplastic immobilization of hindlimbs in mice

Musculoskeletal Infection: Role of Molecular Imaging in Diagnosis and Monitoring Treatment Response

13 Dec 2023

Molecular imaging tests frequently are performed as part of the diagnostic workup of musculoskeletal infection. Three-phase bone scintigraphy reliably diagnoses osteomyelitis in bones not affected by underlying conditions

Automated, Vision-Based Goniometry and Range of Motion Calculation in Individuals With Suspected Ehlers-Danlos Syndromes/Generalized Hypermobility Spectrum Disorders: A Comparison of Pose-Estimation Libraries to Goniometric Measurements

13 Dec 2023

Generalized joint hypermobility (GJH) often leads clinicians to suspect a diagnosis of Ehlers Danlos Syndrome (EDS), but it can be difficult to objectively assess. Video-based goniometry has been proposed to objectively estimate joint range of motion in hyperextended joints

Applying Machine Learning and Point-Set Registration to Automatically Measure the Severity of Spinal Curvature on Radiographs

13 Dec 2023

OBJECTIVE: Measuring the severity of the lateral spinal curvature, or Cobb angle, is critical for monitoring and making treatment decisions for children with adolescent idiopathic scoliosis (AIS). However, manual measurement is time-consuming and subject to human

error. Therefore, clinicians seek an automated measurement method to streamline workflow and improve accuracy

Models for Implant-Induced Capsular Contracture Post Breast Cancer Surgery

13 Dec 2023

Capsular contracture is a painful deformation of scar-tissue that may form around an implant in post-breast cancer reconstruction or cosmetic surgery. Inflammation due to surgical trauma or contamination in the tissue around the implant could account for recruitment of immune cells, and transdifferentiation of resident fibroblasts into cells that deposit abnormally thick collagen

Derivation and validation of diagnostic models for myocardial fibrosis in duchenne muscular dystrophy: assessed by multi-parameter cardiovascular magnetic resonance

12 Dec 2023

CONCLUSIONS: Pre-contrast sequences have a moderate predictive value for LGE. Thus, pre-contrast parameters may be considered only in a specific subset of DMD patients who cannot cooperate for long-time examinations and have contradiction of contrast agent to help predict the presence of LGE.

Differentiation in additive and multiplicative inputs to motoneuron pool as origins of spasticity - a neuromorphic modeling study

12 Dec 2023

Spasticity is characterized by a velocity-dependent increase in the tonic stretch reflex. Evidence suggests that spasticity originates from hyperactivity in the descending tract or reflex loop. To pinpoint the source of hyperactivity, however, is difficult due to lack of human data in-vivo. Thus, we implemented a neuromorphic model to revive the neurodynamics with spiking neuronal activity

Effectiveness of Different Cervical Range of Motion Measurement Techniques for Home-Use to Prevent Cervical Spondylosis

12 Dec 2023

Cervical spondylosis is a non-specific degenerative of cervical spine which results in spinal canal and nerve root foramen stenosis. The stenosis of the canals results in injury of spinal cord and nerve root. The nerve root compression causes a various symptom, such as referred pain and numbness in neck and upper extremities

Deep Learning Segmentation of Lower Extremities Radiographs for an Automatic Leg Length Discrepancy Measurement

12 Dec 2023

Leg length measurement is relevant for the early diagnostic and treatment of discrepancies as they are related with orthopedic and biomechanical changes. Simple radiology constitutes the gold standard on which radiologists perform manual lower limb measurements. It is a simple task but represents an inefficient use of their time, expertise and knowledge that could be spent in more complex labors

Validity of Accelerometer-Based Sensor System for Muscle Tightness Estimation through Vibration on the Upper Limb

12 Dec 2023

Spasticity is a condition that profoundly impacts the ability to perform everyday tasks. However, its diagnosis requires trained physicians and subjective evaluations that may vary depending on the evaluator. Focal vibration of spastic muscles has been proposed as a non-invasive, pain-free alternative for spasticity modulation

Finite Element Modeling of Chondrolabral Lesions in Pincer-Type Femoroacetabular Impingement

11 Dec 2023

CONCLUSIONS: 1. The increase in stress-strain in the contact area at the pincer osteophyte and femoral neck can be a factor of cam-type osteophyte formation and progression of acetabular rim ossification. 2. Daily activity can lead to an increase in maximum stress, as a factor of chondral delamination and destruction of the acetabular labrum. 3

Stomatin-like protein 3 modulates the responses of A δ , but not C fiber bone afferent neurons to noxious mechanical stimulation in an animal model of acute experimental bone pain

11 Dec 2023

STOML3 is a membrane bound scaffolding protein that has been shown to facilitate the opening of mechanically sensitive ion channels and contribute to noxious mechanical sensation, allodynia and hyperalgesia. In this study, we aimed to determine the role of STOML3 in noxious mechanical sensitivity of bone afferent neurons and carrageenan-induced acute inflammation in the bone

Projected impact of population aging on non-communicable disease burden and costs in the Kingdom of Saudi Arabia, 2020-2030

09 Dec 2023

CONCLUSIONS: Managing the growing NCD burden in KSA's aging population will require substantial healthcare spending increases over the coming years.

A New Method to Evaluate Pressure Distribution Using a 3D-Printed C2-C3 Cervical Spine Model with an Embedded Sensor Array

09 Dec 2023

Cervical degenerative disc diseases such as myelopathy and radiculopathy often require conventional treatments like artificial cervical disc replacement or anterior cervical discectomy and fusion (ACDF). When designing a medical device, like the stand-alone cage, there are many design inputs to consider

A New Bioactive Fibrin Formulation Provided Superior Cartilage Regeneration in a Caprine Model

09 Dec 2023

The effective and long-term treatment of cartilage defects is an unmet need among patients worldwide. In the past, several synthetic and natural biomaterials have been designed to support functional articular cartilage formation. However, they have mostly failed to enhance the terminal stage of chondrogenic differentiation, leading to scar tissue formation after the operation

Evaluation of finger strength and spasticity in hemiplegic patients using hand-finger robotic device: A validity and reliability study

08 Dec 2023

We aimed to investigate the validity, reliability, and clinical relevance of Amadeo hand-finger robotic rehabilitation system measurements for evaluating spasticity and strength in hemiplegic patients. In total, 161 participants (107 hemiplegic patients and 54 sex- and age-matched healthy controls) were included in this study

From Hip Screening to Hip Surveillance: Transforming Care for Patients With Cerebral Palsy: An Analysis of a Single Institution

08 Dec 2023

INTRODUCTION: Surveillance programs aimed at monitoring hip displacement in patients with cerebral palsy have been demonstrated to decrease the incidence of hip dislocations and properly time surgical intervention, ultimately improving patient outcomes

The impact of immediate versus delayed mini-screw placement on alveolar bone preservation and bone density following tooth extraction: evidence from a canine model

07 Dec 2023

The aim of this study was to evaluate the impact of mini-screw placement on the alveolar ridge using a split-mouth design. Twelve beagles underwent bilateral extraction of their lateral teeth. In the immediate group, a mini-screw was unilaterally placed approximately 3-4 mm below the alveolar crest of the extraction site on the experimental side

The effect of extracorporeal shock wave on joint capsule fibrosis based on A2AR-Nrf2/HO-1 pathway in a rat extending knee immobilization model

07 Dec 2023

Joint capsule fibrosis, a common complication of joint immobilization, is mainly characterized by abnormal collagen deposition. The present study aimed to investigate the effect of extracorporeal shock wave therapy (ESWT) on reduced collagen deposition in the joint capsule during immobilization-induced joint capsule fibrosis

German Translation and Validation of the Patient-Oriented Questionnaire "Thumb Disability Examination" (TDX) for Specific Diagnosis and Follow-Up of Thumb Carpometacarpal Joint Osteoarthritis

07 Dec 2023

CONCLUSION: The TDX-G is a reliable tool for diagnosing and monitoring the progression of thumb carpometacarpal joint osteoarthritis. It can be used in both patient care and clinical research and accurately mirrors the symptoms.

Evaluation of bone mineral density in adolescent idiopathic scoliosis using a three-dimensional finite element model: a retrospective study

07 Dec 2023

CONCLUSIONS: The 3D finite element modeling of BMD in patients with AIS is a reliable and accurate BMD measurement method. Using this method, the overall BMD of patients with AIS was shown to gradually decrease from the top to the bottom of the spine

Editorial: Fish as model organism for skeletal diseases

06 Dec 2023

No abstract

Patients With Down Syndrome and Total Hip and Total Knee Arthroplasty: Outcome Measures Show Increased Risk of Perioperative Complications

06 Dec 2023

BACKGROUND: Patients with Down syndrome (DS) are being considered for total joint arthroplasty. There is limited literature regarding outcomes of patients with DS after total hip arthroplasty (THA) and total knee arthroplasty (TKA).

Time trends in the burden of autoimmune diseases across the BRICS: an age-period-cohort analysis for the GBD 2019

06 Dec 2023

CONCLUSIONS: The population of the BRICS countries accounts for more than 40% of the global population. And we found that the age effect of various autoimmune diseases is heavily influenced by population ageing.

Longitudinal assessment of skeletal muscle functional mechanics in the DE50-MD dog model of Duchenne Muscular Dystrophy

05 Dec 2023

Duchenne muscular dystrophy (DMD), caused by mutations in the dystrophin gene, is associated with fatal muscle degeneration and atrophy. Patients have progressive reductions in skeletal muscle strength and resistance to eccentric muscle stretch

Estimating surgical probability: Development and validation of a prognostic model for patients with lumbar disc herniation treated with acupuncture

05 Dec 2023

Lumbar disc herniation (LDH) is a common cause of pain in the lumbar spine and legs. While acupuncture has become the primary conservative treatment for LDH, some patients experience treatment failure and require surgery, causing substantial concern for clinicians

The burden of fracture in China from 1990 to 2019

05 Dec 2023

CONCLUSIONS: The burden from fractures has increased significantly since 1990 in China. Falls and road injuries are the main causes of the increase. The fall-associated health burden from osteoporosis needs to be prioritized, with longer-term commitment to its reduction required.

Validation of the Korean Ankylosing Spondylitis Quality of Life Questionnaire

04 Dec 2023

CONCLUSIONS: The Korean version of the ASQoL questionnaire showed acceptable properties of measurement and successful translation. Thus, it can be said that the questionnaire is appropriate for evaluating the outcomes of Korean patients with AS.

Dihydrotanshinone I protects human chondrocytes and alleviates damage from spontaneous osteoarthritis in a guinea pig model

04 Dec 2023

Osteoarthritis (OA) is the most common degenerative joint disease. Currently, no satisfactory pharmacological treatment exists for OA. The potential anti-inflammatory properties of Dihydrotanshinone I (DHT) have been reported, but its effects on OA are

unclear. In this study, we assess the impact of DHT on the viability of human chondrocytes in vitro

Replenishing NAD⁺ content reduces aspects of striated muscle disease in a dog model of Duchenne muscular dystrophy

03 Dec 2023

Duchenne muscular dystrophy (DMD) is an X-linked disease caused by mutations in DMD gene and loss of the protein dystrophin, which ultimately leads to myofiber membrane fragility and necrosis, with eventual muscle atrophy and contractures. Affected boys typically die in their second or third decade due to either respiratory failure or cardiomyopathy

Construction of a prognostic risk score model based on the ARHGAP family to predict the survival of osteosarcoma

01 Dec 2023

CONCLUSION: We constructed a risk prognostic model based on five ARHGAP family genes, which can predict the overall survival of patients with osteosarcoma, to better assist us in clinical decision-making and individualized treatment.

The personal financial burden associated with idiopathic inflammatory myopathies

28 Nov 2023

The economic burden of idiopathic inflammatory myopathies (IIMs) within the US is underexplored. We hypothesized that IIMs patients experience considerable personal financial burden due to risks of multi-specialist visits, chronic long-term care, costs associated with disability, medical treatment, and overall high spending costs within the US healthcare system

The economic burden of myalgic encephalomyelitis/chronic fatigue syndrome in Australia

27 Nov 2023

Objective This study aimed to estimate costs of myalgic encephalomyelitis/chronic fatigue syndrome (ME/CFS) to patients, government and Australian society. Methods Australian ME/CFS patients and their carers were recruited using convenience sampling. Patients completed an online retrospective cost diary, providing ME/CFS-related direct medical, non-medical and indirect costs

Spindle Monitor: A Tool for Real-Time Assessment and Concurrent Treatment of Postoperative Tumor Prognosis

16 Nov 2023

Cancer surgery remains a mainstay in clinical treatment. However, the efficacy of subsequent therapies largely depends on the precise evaluation of postoperative prognoses, underscoring the critical need for a comprehensive and accurate assessment of surgical outcomes. Nanoprobes targeting tumors offer a promising solution for visual prognostic assessment

Numerical modelling of an orthopedic brace with increased functional characteristics for the treatment of idiopathic scoliosis

13 Nov 2023

CONCLUSION: The study provides a novel approach to orthosis design demonstrating that optimizing the structure using the distribution of maximum principal stress trajectories can significantly improve the functionality of the brace. The proposed method offers potential

advances in the design of various types of orthoses, contributing to developments in the field.

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