Musculoskeletal Health Current Awareness Update
July 2024

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

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

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

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Prevention of MSK conditions across the life course

Prevention of MSK conditions across the life course

1. Embedded motivational interviewing combined with a smartphone application to increase physical activity in people with sub-acute low back pain: a cluster randomised controlled trial

29-06-2024 - National Library of Medicine

CONCLUSION: The embedded MI intervention was no more beneficial than physical therapy alone for PA and was associated with poorer LBP disability, function, and self-efficacy. The effectiveness of embedding MI and a smartphone app into usual care for LBP was not supported. Read more...

2. Exploring barriers and facilitators to the adoption of regular exercise practice in patients at risk of a recurrence of low back pain (MyBack project): a qualitative study

27-06-2024 - National Library of Medicine

CONCLUSIONS: These findings will inform the development of a behaviour change-informed exercise intervention to promote regular exercise practice among patients at risk of a recurrence of LBP. Read more...

3. Outcomes of Mulligan Concept Applications in Obese Individuals with Chronic Mechanical Low Back Pain: A Randomized Controlled Trial

27-06-2024 - National Library of Medicine

BACKGROUND: Various treatment modalities have been employed for mechanical low back pain (MLBP), but evidence of their efficacy varies greatly. Objectıve: This randomized controlled trial aimed to assess the outcomes of Mulligan concept applications, including sustained natural apophyseal glides (SNAGS) and natural apophyseal glides (NAGS), in obese patients with MLBP. Read more...

4. Associations of different dietary patterns, bone mineral density, and fracture risk among elderly women: the China Osteoporosis Prevalence Study

27-06-2024 - National Library of Medicine

CONCLUSIONS: Our study suggested that a diet rich in meat, vegetables, and dairy, fruit, and eggs might be associated with greater BMD and a lower fracture risk, while beverage and fried foods may be associated with a lower BMD at L1-4, especially among elderly women. These findings are relevant to provide recommendations on dietary nutrition regarding the elderly population at high risk of ... Read more...

5. The association of osteoporosis and cardiovascular disease risk score based on the Framingham and ACC/AHA risk prediction models: a cross-sectional analysis of Bushehr Elderly Health Program

27-06-2024 - National Library of Medicine

CONCLUSION: The ACC/AHA model is effective in identifying the CVD risk difference between individuals with and without osteoporosis. Read more...

6. The Efficacy of the Smartphone App for the Self-Management of Low Back Pain: A Systematic Review and Assessment of Their Quality through the Mobile Application Rating Scale (MARS) in Italy

27-06-2024 - National Library of Medicine

Smartphone apps for self-management are valuable tools to help manage low back pain (LBP) patients. The purposes of this systematic review were to (a) summarize the available studies on the efficacy of smartphone apps for self-management of LBP and (b) identify free applications available in Italy that offer strategies for LBP self-management and provide a qualitative assessment using the ... Read more...

7. Effects of Gluteal Muscle Strengthening Exercise-Based Core Stabilization Training on Pain and Quality of Life in Patients with Chronic Low Back Pain

27-06-2024 - National Library of Medicine

Background: The World Health Organization reports that back pain is a major cause of disorder worldwide. It is the most common musculoskeletal disorder with limited pain, muscle tension, and stiffness, and 70-80% of all individuals experience it once in their lifetime, with higher prevalence in women than in men. This study aimed to investigate the effects of gluteal muscle strengthening ... Read more...

8. Effect of Structured Exercise-Based Intervention on Upper Quadrant Dysfunction among Fish Processing Workers with Work-Related Musculoskeletal Disorders

27-06-2024 - National Library of Medicine

CONCLUSION: SEBI effectively enhanced the general health of fish processing workers by showing improvements in the measures of NDI, DASH, VAS, and QoL. Hence, SEBI can be recommended in the fish processing industries to achieve potential impact on upper quadrant dysfunction and improve the QoL. Read more...

9. Neuromuscular Strength and Power Predict Musculoskeletal Injury and Attrition During Marine Corps Recruit Training

26-06-2024 - National Library of Medicine

CONCLUSIONS: MSIs and attrition during USMC recruit training significantly undermine force readiness and escalate costs. Our research has pinpointed several modifiable risk factors, chiefly reduced muscular power and cigarette smoking. We advocate for neuromuscular training programs to bolster strength and power, integrated nutrition and exercise strategies for optimal body composition, ... Read more...

10. Playing Surface and Sport Contact Status Modulate Time to Lower Extremity Musculoskeletal Injury at a Greater Level than Concussion History Among Collegiate Student-Athletes

26-06-2024 - National Library of Medicine

CONCLUSION: There was no observed impact of concussion on time to LEMSKI overall in this collegiate athletic population. Contact sports were associated with decreased time to LEMSK, while synthetic surfaces were associated with increased time to LEMSKI in this population. There was no observed impact of biologic sex on time to LEMSKI. Read more...

11. Anti-osteoporosis drugs reduce mortality in cancer patients: A national cohort study of elderly with vertebral fractures

26-06-2024 - National Library of Medicine

CONCLUSION: Our findings suggest that anti-osteoporosis therapy should be initiated regardless of the presence of cancer in the elderly, as it increases survival following OVFs. Read more...

12. Prognostic factors for long-term improvement in pain and disability among patients with persistent low back pain

25-06-2024 - National Library of Medicine

CONCLUSION: Patients with persistent LBP in secondary care had mostly mild-moderate pain and disability consistently at all three time points, with few having consistently severe symptoms over 4 years. Moreover, approximately half of the included patients improved in pain and disability. We found that pain intensity, disability, episode duration, regular employment or studying, ... Read more...

13. Disparities in Osteoporosis Prevention and Care: Understanding Gender, Racial, and Ethnic Dynamics

25-06-2024 - National Library of Medicine

PURPOSE: Osteoporosis, the most prevalent metabolic bone disease, significantly impacts global public health by increasing fracture risks, particularly among post-menopausal women and the elderly. Osteoporosis is characterized by decreased bone mineral density (BMD) and deterioration of bone tissue, which leads to enhanced fragility. The disease is predominantly diagnosed using dual X-ray ... Read more...

14. Exercise-induced neuroplasticity: a new perspective on rehabilitation for chronic low back pain

24-06-2024 - National Library of Medicine

Chronic low back pain patients often experience recurrent episodes due to various peripheral and central factors, leading to physical and mental impairments, affecting their daily life and work, and increasing the healthcare burden. With the continuous advancement of neuropathological research, changes in brain structure and function in chronic low back pain patients have been revealed. Read more...

15. Physical activity to prevent recurrences of low back pain

22-06-2024 - National Library of Medicine

No abstract Read more...

16. Effectiveness and cost-effectiveness of an individualised, progressive walking and education intervention for the prevention of low back pain recurrence in Australia (WalkBack): a randomised controlled trial

22-06-2024 - National Library of Medicine

BACKGROUND: Recurrence of low back pain is common and a substantial contributor to the disease and economic burden of low back pain. Exercise is recommended to prevent recurrence, but the effectiveness and cost-effectiveness of an accessible and low-cost intervention, such as walking, is yet to be established. We aimed to investigate the clinical effectiveness and cost-effectiveness of an ... Read more...

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

21-06-2024 - National Library of Medicine

BACKGROUND: Due to the burden of musculoskeletal diseases in the elderly and the multifactorial nature of such conditions, controlling the pain caused by these disorders requires multidisciplinary approach. This approach requires the participation of the elderly in applying effective prevention measures. This study aims to design a multidisciplinary educational intervention based on health ... Read more...

18. Association between leisure-time physical activity and musculoskeletal pain before and during the COVID-19 pandemic in working adults

21-06-2024 - National Library of Medicine

CONCLUSIONS: The findings showed that physical activity before and during the pandemic was a protective factor for body pain during the COVID-19 pandemic. Read more...

19. Joint associations of leisure time physical activity and screen sitting time with long-term sickness absence due to mental and musculoskeletal diseases: a registry linked follow-up study

21-06-2024 - National Library of Medicine

CONCLUSION: Employers and policymakers could support reducing sitting in front of a screen and increase LTPA outside working hours to prevent mental health problems and related sickness absences. Read more...

20. Features, measurements, determinants, treatments, and outcomes of musculoskeletal symptoms in postmenopausal women: A scoping review

20-06-2024 - National Library of Medicine

CONCLUSION: A comprehensive policy is needed to address musculoskeletal symptoms in postmenopausal women, promoting diverse treatments for improved quality of life. Read more...

21. Nutrition, Vitamin D, and Calcium in Elderly Patients before and after a Hip Fracture and Their Impact on the Musculoskeletal System: A Narrative Review

19-06-2024 - National Library of Medicine

Hip fractures are a major health issue considerably impacting patients' quality of life and well-being. This is particularly evident in elderly subjects, in which the decline in bone and muscle mass coexists and predisposes individuals to fall and fracture. Among interventions to be implemented in hip fractured patients, the assessment and management of nutritional status is pivotal, ... Read more...

22. Is device-measured physical activity associated with musculoskeletal disorders among young adult Finnish men?

19-06-2024 - National Library of Medicine

CONCLUSIONS: There were neither positive nor negative clinically meaningful associations between PA and recent MSK disorders among young adult men. The result is surprising and requires further confirmation. Read more...

23. Invited Perspective: New Insight into Cadmium-Related Osteoporosis Yields Hope for Prevention and Therapy

19-06-2024 - National Library of Medicine

No abstract Read more...

24. METTL14-mediated methylation of SLC25A3 mitigates mitochondrial damage in osteoblasts, leading to the improvement of osteoporosis

19-06-2024 - National Library of Medicine

CONCLUSIONS: Overall, these findings emphasize the crucial role of the METTL14/SLC25A3 signaling axis in osteoblast activity, suggesting that this axis could be a potential target for improving osteoporosis. Read more...

25. Effects of Respiratory Muscle Training on Functional Ability, Pain-Related Outcomes, and Respiratory Function in Individuals with Low Back Pain: Systematic Review and Meta-Analysis

19-06-2024 - National Library of Medicine

Objectives: The aim of this meta-analysis was to determine the effects of respiratory muscle training (RMT) on functional ability, pain-related outcomes, and respiratory function in individuals with sub-acute and chronic low back pain (LBP). Methods: The study selection was as follows: (participants) adult individuals with >4 weeks of LBP (intervention) RMT (comparison) any comparison RMT ... Read more...

26. Emotions in search of words: Does alexithymia predict treatment outcome in chronic musculoskeletal pain?

19-06-2024 - National Library of Medicine

Chronic pain, with its complex and multidimensional nature, poses significant challenges in identifying effective long-term treatments. There is growing scientific interest in how psychopathological and personality dimensions may influence the maintenance and development of chronic pain. This longitudinal study aimed to investigate whether alexithymia can predict the improvement of pain ... Read more...

27. Cross-cultural adaptation, validation and psychometric properties of the Arabic version of the Nordic Musculoskeletal Questionnaire in office working population from Saudi Arabia

19-06-2024 - National Library of Medicine

CONCLUSION: The NMQ was successfully translated and adapted into Arabic language, providing a reliable and valid instrument for assessing pain in specific body regions in the Arabic-speaking population. Read more...

28. Two-Year Outcomes of Daily and Twice-Weekly Teriparatide Treatment in Postmenopausal Women with Severe Osteoporosis: A Randomized Non-Blinded Prospective Study

18-06-2024 - National Library of Medicine

CONCLUSIONS: D-TPTD administration resulted in a significantly higher BMD in the lumbar spine and total hip, supporting this therapeutic regimen for postmenopausal women with severe osteoporosis. Read more...

29. Effect of open vs. closed kinetic chain exercises in ACL rehabilitation on knee joint pain, laxity, extensor muscles strength, and function: a systematic review with meta-analysis

18-06-2024 - National Library of Medicine

Anterior cruciate ligament (ACL) injuries are common among physically active individuals, often requiring ACL reconstruction (ACLR) for recovery. Rehabilitating these injuries involves determining the appropriate timing for initiating open kinetic chain (OKC) exercises. Although OKC exercises are effective post-ACLR, their use in rehabilitation remains a subject of debate. Read more...

30. Effectiveness of Spironolactone in Reducing Osteoporosis and Future Fracture Risk in Middle-Aged and Elderly Hypertensive Patients

17-06-2024 - National Library of Medicine

CONCLUSION: This study offers evidence supporting the significant positive impact of the antihypertensive drug spironolactone on bone health, resulting in a substantial reduction in the risk of osteoporosis and future fractures in hypertensive patients. Future research should consider conducting large-scale, multicenter, randomized controlled trials to further investigate the long-term ... Read more...

31. Prevention and control of venous thromboembolism after major orthopedic surgery through doctor-to-patient cultivation of musculoskeletal ability based on King's theory of goal attainment

17-06-2024 - National Library of Medicine

CONCLUSIONS: Nursing intervention measures, utilizing doctor-to-patient cultivation of musculoskeletal ability based on King's theory of goal attainment, have demonstrated a significant clinical benefit for VTE prevention and control in post-MOS patients. This approach not only effectively prevented VTE in post MOS patients but also enhanced their satisfaction towards nursing care. Read more...

32. Exercise entrainment of musculoskeletal connective tissue clocks

17-06-2024 - National Library of Medicine

The musculoskeletal system, crucial for movement and support, relies on the delicate balance of connective tissue homeostasis. Maintaining this equilibrium is essential for tissue health and function. There has been increasing evidence in the last decade that shows the circadian clock as a master regulator of extracellular matrix (ECM) homeostasis in several connective tissue clocks. Read more...

33. MRI-based Pedicle Bone Quality score: Correlation to Quantitative Computed Tomography Bone Mineral Density and its Role in Quantitative Assessment of Osteoporosis

16-06-2024 - National Library of Medicine

CONCLUSIONS: In this study, we propose a novel, MRI-based pedicle-specific bone quality score. This is the first study to investigate the relationship between the PBQ score and QCT BMD. The PBQ score showed diagnostic utility, differentiating between patients with osteopenia/osteoporosis and those with normal BMD (AUC = 0.776), and the PBQ score correlated more strongly with QCT BMD than VBQ. Read more...

34. Pharmacist-initiated interventions to test quantitative bone mineral density and prescribe osteoporosis medications to prevent steroid-induced osteoporosis

15-06-2024 - National Library of Medicine

Fragility fractures associated with glucocorticoid-induced osteoporosis (GIO) can markedly impair quality of life. However, only 20% of patients are treated in compliance with the relevant management guidelines, and bone mineral density analysis with dual-energy X-ray absorptiometry (DXA) is only rarely performed. We report the intervention methods suggested by pharmacists and describe their ... Read more...

35. Appraisal of Clinical Practice Guideline: Clinical practice guideline for management of osteoporosis and fracture prevention in Canada: 2023 update

15-06-2024 - National Library of Medicine

No abstract Read more...

36. Effects of a mat Pilates-based exercise program for low back pain in helicopter pilots of the Brazilian Air Force: Randomized controlled trial

14-06-2024 - National Library of Medicine

CONCLUSION: Pain intensity was significantly reduced while spine muscle endurance increased in PG compared with REG after intervention thus, Pilates-based exercises should be considered in physical conditioning programs for helicopter pilots. Read more...

37. Low back pain prevention behaviors and beliefs among the Polish population in a cross-sectional survey

14-06-2024 - National Library of Medicine

CONCLUSION: The study provides valuable insights into the association between LBP treatment, back pain prevention behaviors, and beliefs, suggesting potential avenues for future research and intervention development. By addressing workplace ergonomics and promoting a culture of back health, it may be possible to reduce the burden of LBP in Poland. Read more...

38. Linking the relationship between dietary folic acid intake and risk of osteoporosis among middle-aged and older people: A nationwide population-based study

14-06-2024 - National Library of Medicine

Among middle-aged and older people, balanced and nutritious diets are the foundation for maintaining bone health and preventing osteoporosis. This study is aimed at investigating the link between dietary folic acid intake and the risk of osteoporosis among middle-aged and older people. A total of 20,686 people from the National Health and Nutritional Examination Survey (NHANES) 2007-2010 are ... Read more...

39. Synergy quality assessment of muscle modules for determining learning performance using a realistic musculoskeletal model

14-06-2024 - National Library of Medicine

How our central nervous system efficiently controls our complex musculoskeletal system is still debated. The muscle synergy hypothesis is proposed to simplify this complex system by assuming the existence of functional neural modules that coordinate several muscles. Modularity based on muscle synergies can facilitate motor learning without compromising task performance. Read more...

40. The "sweet- and sour-spot" of occupational physical activity for back pain: a prospective accelerometer study among eldercare workers

14-06-2024 - National Library of Medicine

CONCLUSIONS: The "sweet-spot" of occupational physical activity for back pain among eldercare workers involves more sitting and light physical activity time, while the "sour-spot" involves more standing and moderate-to-vigorous physical activity time. Research on the occupational physical activity "sweet- and sour-spot" is needed. Read more...

41. Develop a bone mineral density T-score distribution nomograms based on osteoporosis risk factors for middle-aged and older adults

14-06-2024 - National Library of Medicine

CONCLUSIONS: The nomogram proved highly accurate in identifying men aged 50 and above and postmenopausal women based on their BMD T-score distribution, improving clinical decision-making and patient care in osteoporosis evaluation and treatment. Read more...

42. An online training resource for clinicians to optimise exercise prescription for persistent low back pain: Design, development and usability testing

14-06-2024 - National Library of Medicine

CONCLUSIONS: An online training programme to optimise exercise prescription for persistent LBP appears to be easy to use, informative and improves confidence to apply the learning. Read more...

43. Acute effect of dry needling on trunk kinematics and balance of patients with non-specific low back pain

14-06-2024 - National Library of Medicine

BACKGROUND: Limited knowledge exists about the effectiveness of dry needling (DN) concerning the torso kinematics in patients with non-specific low back pain (NS-LBP). Acute effects of DN in NS-LBP patients from a functional perspective were investigated. Read more...

44. Menopausal wellbeing: navigating quality of life and osteoporosis risk

12-06-2024 - National Library of Medicine

CONCLUSION: This study underscores the complex interplay of demographic factors, menopausal experiences, and their impact on the participants' quality of life. The prevalence of psychosocial symptoms and the significant risk of osteoporosis call for tailored healthcare interventions. Postmenopausal women with history of fracture, high concern of fall and single women require special attention. Read more...

45. Osteoporosis treatment prevents hip fracture similarly in both sexes: the FOCUS observational study

11-06-2024 - National Library of Medicine

Randomized trials have not been performed, and may never be, to determine if osteoporosis treatment prevents hip fracture in men. Addressing that evidence gap, we analyzed data from an observational study of new hip fractures in a large integrated healthcare system to compare the reduction in hip fractures associated with standard-of-care osteoporosis treatment in men versus women. Read more...

46. Effects of non-specific low back pain on static balance in emerging adults

CONCLUSION: Emerging adults with CLBP showed postural control impairments related to altered sensory weighting. These findings provide insights into the development of CLBP and its effects on postural control. This information may aid early identification, monitoring, and treatment of individuals in the initial stages of disease development who may have unrecognized postural impairments. Read more...

47. Holistic management of chronic musculoskeletal pain among elderly patients: A primary care approach

No abstract Read more...

48. For optimal treatment of musculoskeletal pain among elderly individuals, clarification of its aetiology is essential

No abstract Read more...

49. Effectiveness of exercise programs to reduce low back pain among nurses and nursing assistants: A systematic review and meta-analysis

CONCLUSIONS: Exercise programs are an effective treatment to reduce low back pain in nurses and nursing assistants, especially among younger staff. Read more...

50. New insights into dairy management and the prevention and treatment of osteoporosis: The shift from single nutrient to dairy matrix effects-A review

Dairy is recognized as a good source of calcium, which is important for preventing osteoporosis. However, the relationship between milk and bone health is more complex than just calcium supplementation. It is unwise to focus solely on observing the effects of a single nutrient. Lactose, proteins, and vitamins in milk, as well as fatty acids, oligosaccharides, and exosomes, ... Read more...

51. Association between trunk extensor strength and gait-induced back pain in the elderly with adult spinal deformity: a cross-sectional study

CONCLUSIONS: The results of the present study strongly indicate that trunk extensor strength is a valuable factor associated with GIBP in patients with ASD. Read more...

52. Bone metabolism factors in predicting the risk of osteoporosis fracture in the elderly

CONCLUSION: Bone metabolism factors were associated with poor prognosis of OS in the elderly. The combined detection had higher diagnostic value in calculating the risk of OS fracture in the elderly than single indicator detection. Read more...

53. Enhancing Osteoporosis Management: A Thorough Examination of Surgical Techniques and Their Effects on Patient Outcomes

Managing osteoporotic fractures in older individuals is a difficult task in orthopedic surgery. It requires a careful approach that combines advanced diagnostic methods, customized surgical treatments, and comprehensive rehabilitation strategies. This article presents the results of an analysis carried out at the University Emergency Hospital, Bucharest. The analysis specifically examines the ... Read more...

54. MyBack - effectiveness and implementation of a behavior change informed exercise programme to prevent low back pain recurrences: a hybrid effectiveness-implementation randomized controlled study protocol

05-06-2024 - National Library of Medicine

BACKGROUND: Low back pain (LBP) is a common health condition and the leading cause of years lived with disability worldwide. Most LBP episodes have a favourable prognosis, but recurrences within a year are common. Despite the individual and societal impact related to LBP recurrences, there is limited evidence on effective strategies for secondary prevention of LBP and successful ... Read more...

55. Correlation between vitamin D levels and blood pressure in elderly hypertensive patients with osteoporosis

05-06-2024 - National Library of Medicine

CONCLUSION: There was a significant negative correlation between vitamin D levels and blood pressure levels in elderly patients with hypertension and osteoporosis. Read more...

56. Self-acknowledged limitations in exercise therapy trials for low back pain

05-06-2024 - National Library of Medicine

CONCLUSION: Statistical power, study length and/or follow-up, and inclusion criteria were the three most commonly reported categories of SALs in exercise trials for LBP. Lack of long-term follow-up, inadequate sample size and inclusion of specific populations were the most common subcategories. Research protocols recognizing and avoiding these limitations will enhance the overall quality of ... Read more...

57. Inflammatory microenvironment regulation and osteogenesis promotion by bone-targeting calcium and magnesium repletion nanoplatform for osteoporosis therapy

05-06-2024 - National Library of Medicine

Osteoporosis is the most common bone metabolic disease that affects the health of middle-aged and elderly people, which is hallmarked by imbalanced bone remodeling and a deteriorating immune microenvironment. Magnesium and calcium are pivotal matrix components that participate in the bone formation process, especially in the immune microenvironment regulation and bone remodeling stages. Read more...

58. Effectiveness of in-group versus individually administered pain neuroscience education on clinical and psychosocial outcomes in patients with chronic low back pain: randomized controlled study protocol

04-06-2024 - National Library of Medicine

CONCLUSION: The innovative approach of PNE oriented to fear beliefs proposed in this study could broaden the application strategies of this educational therapeutic modality. Impact. Contextualized PNE delivered by physical therapist could be essential to achieve a good cost-effectiveness ratio of this intervention to improve the clinical condition of people with CLBP. Read more...

59. Improving door-to-analgesia timing in musculoskeletal injuries in an academic emergency department in India: a quality improvement project

04-06-2024 - National Library of Medicine

CONCLUSION: Implementing simple change ideas resulted in a substantial improvement in door-to-analgesia timing within the ED. These findings significantly contribute to ongoing discussions on the optimisation of pain management in emergency care. Read more...

60. Assessing the association between a sedentary lifestyle and prevalence of primary osteoporosis: a community-based cross-sectional study among Chinese population

04-06-2024 - National Library of Medicine

CONCLUSIONS: This study suggests a potential association between a sedentary lifestyle and the prevalence of POP within the Chinese population. Modifying sedentary behaviours could contribute to a

reduction in POP risk. However, longitudinal cohort studies are necessary to confirm this hypothesis in the future. Read more...

61. What are the costs of managing neck and low back pain in Brazil? Investigation of a ten-year period from the perspective of the Brazilian public health system

04-06-2024 - National Library of Medicine

CONCLUSION: Our study showed that the costs with NP and LBP in Brazil were considerable. Female patients had higher outpatient costs and male patients had higher hospitalization costs. Healthcare expenses were concentrated for individuals between 34 and 63 years of age. Read more...

62. The Role of Musculoskeletal Training During Return to Performance Following Relative Energy Deficiency in Sport

04-06-2024 - National Library of Medicine

CONCLUSIONS: REDs is associated with decreases in markers of bone health, lean body mass, maximal and explosive strength, and muscle work capacity. Restoration of optimal energy availability, mainly through an increase in energy intake, is the primary goal during the initial treatment of REDs with a return to performance managed by a multidisciplinary team of specialists. Read more...

63. Effectiveness of a pain neuroscience education programme on the physical activity of patients with chronic low back pain compared with a standard back school programme: protocol for a randomised controlled study (END-LC)

03-06-2024 - National Library of Medicine

INTRODUCTION: Education is recognised as an effective and necessary approach in chronic low back pain. Nevertheless, data regarding the effectiveness of education in promoting physical activity in the medium term or long term are still limited, as are the factors that could lead to successful outcomes. Our study aims to assess the effectiveness of a pain neuroscience education programme ... Read more...

64. Home-based circuit training improves blood lipid profile, liver function, musculoskeletal fitness, and health-related quality of life in overweight/obese older adult patients with knee osteoarthritis and type 2 diabetes: a randomized controlled trial during the COVID-19 pandemic

03-06-2024 - National Library of Medicine

CONCLUSION: The present outcomes recommend that an injury-free HBCT program may improve various indicators related to cardiometabolic health, musculoskeletal fitness, and HRQoL in elderly with overweight/obesity, T2DM and KOA. These findings offer valuable insights for clinicians and practitioners seeking evidence-based exercise interventions tailored for patients managing substantial ... Read more...

65. Efficacy of a new protocol for the prevention of work-related musculoskeletal disorders in dental hygiene students: A pilot randomized controlled trial

03-06-2024 - National Library of Medicine

CONCLUSION: The present pilot RCT demonstrated the efficacy of stretching associated with muscle strengthening in decreasing the risk of WMSD, especially for the neck, shoulders and lower back. The potential strength of this model is related to the possibility to perform stretching exercises chairside at work during scheduled breaks, in addition to complementary muscle strengthening sessions ... Read more...

66. Causal impact of DNA methylation on refracture in elderly individuals with osteoporosis - a prospective cohort study

03-06-2024 - National Library of Medicine

BACKGROUND: Osteoporotic vertebral compression fractures (OVCF) in the elderly increase refracture risk post-surgery, leading to higher mortality rates. Genome-wide association studies (GWAS) have identified susceptibility genes for osteoporosis, but the phenotypic variance explained by these genes has been limited, indicating the need to explore additional causal factors. Read more...

67. Supporting self-management of low back pain with an internet intervention with and without telephone support in primary care (SupportBack 2): a randomised controlled trial of clinical and cost-effectiveness

02-06-2024 - National Library of Medicine

BACKGROUND: Low back pain is prevalent and a leading cause of disability. We aimed to determine the clinical and cost-effectiveness of an accessible, scalable internet intervention for supporting behavioural self-management (SupportBack). Read more...

Living well with MSK conditions

Living well with MSK conditions

1. Opportunistic use of lumbar computed tomography and magnetic resonance imaging for osteoporosis screening

28-06-2024 - National Library of Medicine

CONCLUSION: Opportunistic use of CT and MRI can simply distinguish patients with OP, which are expected to be potential alternatives to T-score for the osteoporosis screening. Read more...

2. Economic burden and dosing trends of buprenorphine buccal film and transdermal patch in chronic low back pain

28-06-2024 - National Library of Medicine

Aim: Exploring prescribing trends and economic burden of chronic low back pain (cLBP) patients prescribed buprenorphine buccal film (Belbuca®) or transdermal patches. Methods: In the MarketScan® commercial insurance claims (employees and their spouses/dependents, 2018-2021), the first film or patch prescription date was an index event. The observation covered 6-month pre-index and 12-month ... Read more...

3. Decreased Risk of Osteoporosis Incident in Subjects Receiving Chinese Herbal Medicine for Sjogren syndrome Treatment: A Retrospective Cohort Study with a Nested Case-Control Analysis

27-06-2024 - National Library of Medicine

Sjögren syndrome (SS) is a long-lasting inflammatory autoimmune disease that may cause diverse manifestations, particularly osteoporosis. Though usage of Chinese herbal medicine (CHM) can safely manage autoimmune disease and treatment-related symptoms, the relation between CHM use and osteoporosis risk in SS persons is not yet recognized. With that in mind, this population-level nested ... Read more...

4. Effectiveness of the Cooled Radiofrequency Ablation of Genicular Nerves in Patients with Chronic Knee Pain Due to Osteoarthritis: A Double-Blind, Randomized, Controlled Study

27-06-2024 - National Library of Medicine

Background: Increasing evidence supporting the clinical effectiveness of cooled radiofrequency ablation (RFA) therapy for genicular nerves in patients with chronic knee osteoarthritis (OA) exists. However, no study has been conducted to eliminate the potential influence of a placebo effect associated with this procedure. Therefore, we evaluated the efficacy of cooled RFA compared with a sham ... Read more...

5. Spinal Pathology and Muscle Morphologies with Chronic Low Back Pain and Lower Limb Amputation

27-06-2024 - National Library of Medicine

CONCLUSIONS: Despite similar lumbar muscle size, those with unilateral LLA may be predisposed to progress to symptomatic spondylolisthesis and intramuscular fat. Surgical and/or rehabilitation interventions may mitigate long-term effects of diminished spinal health, decrease LBP-related disability, and improve function for individuals with LLA. Read more...

6. Developing and comparing deep learning and machine learning algorithms for osteoporosis risk prediction

26-06-2024 - National Library of Medicine

CONCLUSION: In conclusion, we developed a novel DNN model which was considered to be an effective algorithm for early diagnosis and intervention of osteoporosis in the aging population. Read more...

7. Accuracy of Phantomless Calibration of Routine Computed Tomography Scans for Opportunistic Osteoporosis Screening in the Spine Clinic

26-06-2024 - National Library of Medicine

CONCLUSIONS: This novel method allows simple, in-office calibration of routine preoperative CT scans without the use of a phantom. Calibration using adipose and erector spinae with a threshold of 162 mg/cm3 is proposed for low bone density screening with high sensitivity (90%). Read more...

8. Effects of transcutaneous vagus nerve stimulation on chronic low back pain: a systematic review

26-06-2024 - National Library of Medicine

CONCLUSION: There is still no evidence to support the use of transcutaneous vagus nerve stimulation as a viable therapeutic rehabilitation strategy. Therefore, we recommend high-quality trials and long-term follow-up to evaluate disability, quality of life, and pain outcomes in these patients. Read more...

9. Ergonomic risks and musculoskeletal pain in hospital cleaning workers: Convergent Care Research with mixed methods

26-06-2024 - National Library of Medicine

CONCLUSION: the workers investigated are exposed to modifiable multifactorial ergonomic risks related to musculoskeletal pain. It is possible to promote innovations and teaching-learning actions to minimize them, such as the continuing education program, collectively constructed with recommendations for improvements. Read more...

10. AI-based opportunistic quantitative image analysis of lung cancer screening CTs to reduce disparities in osteoporosis screening

26-06-2024 - National Library of Medicine

Osteoporosis is underdiagnosed, especially in ethnic and racial minorities who are thought to be protected against bone loss, but often have worse outcomes after an osteoporotic fracture. We aimed to determine the prevalence of osteoporosis by opportunistic CT in patients who underwent lung cancer screening (LCS) using non-contrast CT in the Northeastern United States. Read more...

11. Degree centrality-based resting-state functional magnetic resonance imaging explores central mechanisms in lumbar disc herniation patients with chronic low back pain

26-06-2024 - National Library of Medicine

CONCLUSION: The findings indicated local abnormalities in spontaneous neural activity and functional connectivity in the bilateral cerebellum, bilateral brainstem, left middle temporal gyrus, and right postcentral gyrus among LDHCP patients. Read more...

12. Maintaining resilience over time: A qualitative exploration of the experiences of living with chronic musculoskeletal pain

26-06-2024 - National Library of Medicine

CONCLUSION: This study may be useful for healthcare professionals, psychologists, social workers, and other specialists who daily encounter patients with CMP and aspire to understand the main challenges and needs of this particular group of patients. Read more...

13. Routine Physical Therapy with and without Neural Mobilization in Chronic Musculoskeletal Neck Disorders with Nerve-Related Symptoms: Systematic Review and Meta-Analysis

26-06-2024 - National Library of Medicine

No previous study has evaluated the effectiveness of routine physical therapy with and without neural mobilization for patients with chronic musculoskeletal neck disorders and cervical radiculopathy. The objective is to evaluate the effectiveness of routine physical therapy with and without neural mobilization on pain and mobility in patients with chronic musculoskeletal neck disorders and ... Read more...

14. AI and Chest Radiographs: A Dawning Era in Osteoporosis Screening

25-06-2024 - National Library of Medicine

No abstract Read more...

15. The effectiveness of peer support interventions for community-dwelling adults with chronic musculoskeletal pain: a systematic review and meta-analysis of randomised trials

25-06-2024 - National Library of Medicine

This systematic review and meta-analysis critically examined the evidence for peer support interventions to reduce pain and improve health outcomes in community-dwelling adults with chronic musculoskeletal pain (PROSPERO CRD42022356850). A systematic search (inception-January 2023) of electronic databases and grey literature was undertaken to identify relevant randomised controlled trials, ... Read more...

16. Disrupted Resting-State Functional Connectivity and Effective Connectivity of the Nucleus Accumbens in Chronic Low Back Pain: A Cross-Sectional Study

25-06-2024 - National Library of Medicine

CONCLUSION: Overall, our findings demonstrate aberrant rsFC and EC between NAc and regions that are associated with emotional regulation and cognitive processing in individuals with cLBP, underscoring the pivotal roles of emotion and cognition in cLBP. Read more...

17. Prevalence and Risk Factors Associated with Chronic Occupational Low Back Pain among Healthcare Professionals Working at Hospitals: Exploratory Survey Study

24-06-2024 - National Library of Medicine

Objective This study aimed to describe the methodological process for developing a questionnaire to identify the prevalence and risk factors for chronic occupational low back pain in healthcare professionals working at hospitals. Method An exploratory crosssectional survey study was carried out in Belo Horizonte, MG, Brazil, and its metropolitan region, in two stages. Read more...

18. Indication for spinal sensitization in chronic low back pain: mechanical hyperalgesia adjacent to but not within the most painful body area

24-06-2024 - National Library of Medicine

CONCLUSION: Mechanical hyperalgesia and DMA adjacent to but not within MP, the supposedly primarily affected area, might reflect secondary hyperalgesia originating from spinal sensitization in patients with CLBP. Read more...

19. Knowledge, Awareness and Perception towards Osteoporosis Risk in China: A Systematic Review

24-06-2024 - National Library of Medicine

CONCLUSION: The findings of this paper provide useful information for intervention providers to prevent and control OP and encourage them to carry out health promotion campaigns to enhance knowledge and awareness of OP. Read more...

20. Outpatient interdisciplinary multimodal pain treatment programme for patients with chronic musculoskeletal pain: a longitudinal cohort study

24-06-2024 - National Library of Medicine

CONCLUSIONS: At group level, all outcomes significantly improved with mainly large effect sizes. The results were mostly sustained. The proportion of patients showing clinically relevant improvements tends to be larger than previously reported for mixed CMP patients. Read more...

21. Pain neuroscience education improves post-traumatic stress disorder, disability, and pain self-efficacy in veterans and service members with chronic low back pain: Preliminary results from a randomized controlled trial with 12-month follow-up

24-06-2024 - National Library of Medicine

Post-traumatic stress disorder (PTSD) and chronic low back pain (CLBP) are frequently co-morbid. Some research suggests that PTSD and CLBP may share common neurobiological mechanisms related to stress. Traditional biomedical education may be ineffective for PTSD and CLBP, especially when co-morbid. The purpose of this study is to determine if pain neuroscience education (PNE) is more ... Read more...

22. Identifying the risk of exercises, recommended by an artificial intelligence for patients with musculoskeletal disorders

24-06-2024 - National Library of Medicine

Musculoskeletal disorders (MSDs) impact people globally, cause occupational illness and reduce productivity. Exercise therapy is the gold standard treatment for MSDs and can be provided by physiotherapists and/or also via mobile apps. Apart from the obvious differences between physiotherapists and mobile apps regarding communication, empathy and physical touch, ... Read more...

23. Elucidating causal relationships of diet-derived circulating antioxidants and the risk of osteoporosis: A Mendelian randomization study

24-06-2024 - National Library of Medicine

CONCLUSION: There is a positive causal relationship between absolute retinol levels and heel BMD. The implications of our results should be taken into account in future studies and in the creation of public health policies and OP prevention tactics. Read more...

24. The positive effect of pulse electromagnetic field therapy on pain and disability in chronic low back pain: a comparative study

24-06-2024 - National Library of Medicine

CONCLUSIONS: PEMFT seems to be able to alleviate pain intensity and ameliorate disability in patients with chronic low back pain. PEMFT can be considered an effective and safe option that can be added to routine physical therapy modalities for relieving chronic low back pain frequently encountered in clinical practice. Further studies validating the effectiveness of PEMFT could strengthen its ... Read more...

25. Changes in brain structure and function during early aging in patients with chronic low back pain

24-06-2024 - National Library of Medicine

CONCLUSION: This preliminary study concludes that CLBP affects the aging process. The synergistic effects of CLBP and aging accelerate the functional and structural decline of certain areas of the brain, which not only affects pain processing, but are also may be associated with cognitive declines. Read more...

26. Responsiveness and clinically important differences of the PROMIS short form-depression 8a, anxiety 8a, and PASS-20 in individuals with chronic low back pain

24-06-2024 - National Library of Medicine

CONCLUSION: The PROMIS-D-8a, PROMIS-Anx8a, and PASS-20 measures were sensitive for detecting clinical changes over time in individuals with CLBP. The CID values can be used as reference points for assessing meaningful improvements in the domains assessed by these scales in clinical and research practice. Read more...

27. Using broadly targeted plant metabolomics technology combined with network pharmacology to explore the mechanism of action of the Yishen Gushu formula in the treatment of Postmenopausal osteoporosis in vivo

24-06-2024 - National Library of Medicine

CONCLUSION: YSGSF activates the TNF-α and IL-7 signaling pathways in PMOP rats, reducing TNF-α and IL-1β levels, the c-Jun inflammatory response, and osteocyte differentiation and apoptosis, thus playing a significant role in treating PMOP. Read more...

28. Exploring equity of care for Aboriginal and Torres Strait Islander peoples within the state-wide Musculoskeletal Physiotherapy Screening Clinic and Multi-disciplinary Service in Queensland Health

23-06-2024 - National Library of Medicine

ObjectiveThis study aimed to explore equity of care for Aboriginal and Torres Strait Islander peoples compared to non-Indigenous Australians within a Queensland-wide musculoskeletal service.MethodThe service database was analysed between July 2018 and April 2022 across 18 Queensland Health facilities. Representation of Aboriginal and Torres Strait Islander peoples within the service's patient ... Read more...

29. Back pain in adolescent idiopathic scoliosis: frequency and risk factors

23-06-2024 - National Library of Medicine

CONCLUSION: Nearly half (48%) of newly diagnosed AIS patients experience back pain which is higher than the prevalence of 33% seen in the general adolescent population. Pain was more prevalent among patients over the age of 13, with heavier body weight, and those insured by Medicaid. Pain was most commonly reported in the lumbar region, especially among patients with lumbar curves. Read more...

30. Association between dietary folate intake and the risk of osteoporosis in adults: a cross-sectional study

22-06-2024 - National Library of Medicine

CONCLUSIONS: Our cross-sectional study provides initial insights into the inverse association between dietary folate intake and the risk of osteoporosis in the general U.S. Read more...

31. Assessment of ergonomic risk of work related musculoskeletal disorders among dentist in Kolhapur region

21-06-2024 - National Library of Medicine

CONCLUSION: Current workstation (Dental Chair) requires immediate improvements as evident from the postural load analysis, thus immediate implementation of intervention program is required. Read more...

32. Sustained acoustic medicine treatment of discogenic chronic low back pain: A randomized, multisite, double-blind, placebo-controlled trial

21-06-2024 - National Library of Medicine

CONCLUSION: Daily, home-use SAM treatment significantly improves the clinical symptoms of chronic lower back pain, improves physical mobility, and reduces daily medication use. SAM treatment is well-tolerated by patients and may be considered a safe, non-invasive treatment option for chronic discogenic, lower back pain. Read more...

33. Unveiling relevant emotions, cognitions, and behaviours from the viewpoint of people with chronic low back pain: A qualitative study with patient involvement

21-06-2024 - National Library of Medicine

CONCLUSION: Patients with CLBP expressed a wide variety of emotions, cognitions, and behaviours that must be considered by health professionals with the goal of providing the best patient-centred care. Read more...

34. Using accelerometers to identify a high risk of catastrophic musculoskeletal injury in three racing Thoroughbreds

21-06-2024 - National Library of Medicine

OBJECTIVE: To describe the process whereby the screening of racing Thoroughbreds with accelerometer-based inertial measurement unit (IMU) sensors followed by clinical evaluation and advanced imaging identified potentially catastrophic musculoskeletal injuries in 3 horses. Read more...

35. Correction: Klotho reduces the risk of osteoporosis in postmenopausal women: a cross-sectional study of the National Health and Nutrition Examination Survey (NHANES)

20-06-2024 - National Library of Medicine

No abstract Read more...

36. Risk Factors Associated with Osteopenia/Osteoporosis in Antiretroviral Therapy Naive HIV Patients Maltepe University, Turkey

20-06-2024 - National Library of Medicine

CONCLUSION: Being over 40 years of age, CD4 count ≤200/μL, vitamin D level <20 ng/mL and low BMI are the most important risk factors for osteopenia/osteoporosis in ART naive patients. Among these parameters, age and vitamin D level were significant and independent risk factors. These factors may guide the determination of the need for dual-energy x-ray absorptiometry (DXA) testing in ART ... Read more...

37. Denosumab, for osteoporosis, reduces the incidence of type 2 diabetes, risk of foot ulceration and all-cause mortality in adults, compared with bisphosphonates: An analysis of real-world, cohort data, with a systematic review and meta-analysis

20-06-2024 - National Library of Medicine

CONCLUSIONS: This is the largest cohort study to show that denosumab treatment is associated with a reduced RR of incident T2D, as well as an associated reduced RR of all-cause mortality and microvascular complications, findings that may influence guideline development in the treatment of osteoporosis, particularly in patients who are at a high risk of T2D. Read more...

38. A Novel IMU-Based System for Work-Related Musculoskeletal Disorders Risk Assessment

19-06-2024 - National Library of Medicine

This study introduces a novel wearable Inertial Measurement Unit (IMU)-based system for an objective and comprehensive assessment of Work-Related Musculoskeletal Disorders (WMSDs), thus enhancing workplace safety. The system integrates wearable technology with a user-friendly interface, providing magnetometer-free orientation estimation, joint angle measurements, and WMSDs risk evaluation. Read more...

39. Digital self-management for back pain in the UK

19-06-2024 - National Library of Medicine

No abstract Read more...

40. The Effect of Foot Reflexology on Stress, Fatigue, and Low Back Pain in Intensive Care Unit Nurses: A Randomized Controlled Trial

19-06-2024 - National Library of Medicine

CONCLUSION: Foot reflexology appears to offer promise as an effective method for ICU nurses to reduce lower back pain and fatigue. Read more...

41. Cortical Mechanisms Underlying Effects of Repetitive Peripheral Magnetic Stimulation on Dynamic and Static Postural Control in Patients with Chronic Non-Specific Low Back Pain: A Double-Blind Randomized Clinical Trial

19-06-2024 - National Library of Medicine

CONCLUSION: Repetitive peripheral magnetic stimulation combined with core muscle training demonstrated better analgesic effects and postural control improvements, compared to sham-stimulation. This may be attributed to the increased activation of the left primary motor cortex. Read more...

42. Determinants of medical care-seeking behavior for musculoskeletal conditions during US: Marine Corps training: A thematic analysis

19-06-2024 - National Library of Medicine

CONCLUSION: Understanding determinants of care-seeking behavior is valuable when designing intervention strategies to promote early MSK-I treatment. Our findings add to previous research to elucidate reasons underlying the decisions about care-seeking for MSK-I/MSK-P. Interventions, including educational strategies and direct approaches, like embedding medical providers within units, ... Read more...

43. A Machine Learning Framework for Screening Plasma Cell-Associated Feature Genes to Estimate Osteoporosis Risk and Treatment Vulnerability

19-06-2024 - National Library of Medicine

Osteoporosis, in which bones become fragile owing to low bone density and impaired bone mass, is a global public health concern. Bone mineral density (BMD) has been extensively evaluated for the diagnosis of low bone mass and osteoporosis. Circulating monocytes play an indispensable role in bone destruction and remodeling. This work proposed a machine learning-based framework to investigate ... Read more...

44. Association between serum insulin-like growth factor 1 and osteoporosis risk in Parkinson's disease: a cross-sectional study

19-06-2024 - National Library of Medicine

CONCLUSION: Reduced levels of serum IGF-1, uric acid, and an increased H-Y stage are closely linked to osteoporosis in PD. Elevating serum levels of IGF-1 and uric acid may potentially offer therapeutic avenues for PD with osteoporosis. Read more...

45. Deep learning for osteoporosis screening using an anteroposterior hip radiograph image

19-06-2024 - National Library of Medicine

CONCLUSIONS: This study demonstrates the potential of deep learning for osteoporosis screening using anteroposterior hip radiographs. The results suggest that the deep learning model might potentially be used as a screening tool to find patients at risk for osteoporosis to perform further BMD measurement. Read more...

46. Effects of monopolar pulsed-capacitive dielectric radiofrequency diathermy in patients with chronic low back pain: a randomised clinical trial

18-06-2024 - National Library of Medicine

Monopolar capacitive diathermy is a physiotherapy technique that uses high-frequency currents to generate heat in deep tissues. This heat can have several therapeutic effects, especially in the treatment of chronic low back pain (CLBP), however, until now there is little evidence of this type of diathermy. The purpose was to evaluate the efficacy of a pulsed monopolar dielectric ... Read more...

47. Screening and early treatment for osteoporosis: Who are we missing under age 65?

17-06-2024 - National Library of Medicine

For women under age 65, varying recommendations and the need to apply clinical risk calculators can lead to underscreening for osteoporosis. The resulting undertreatment may lead to a risk of osteoporotic fractures with significant morbidity and impact on functional status. Factors that must be considered when deciding to screen a woman under age 65 include a history of fragility fractures, ... Read more...

48. Exogenous and endogenous antioxidants in osteoporosis risk: causal associations unveiled by Mendelian Randomization analysis

17-06-2024 - National Library of Medicine

CONCLUSION: The research uncovers OP as a possible determinant contributing to a decrement in serum albumin levels, and further suggests a potentially intimate relationship between the downward trajectory of serum albumin concentrations and the advancement of the OP disease process. Read more...

49. Potential Metabolic Pathways Involved in Osteoporosis and Evaluation of Fracture Risk in Individuals with Diabetes

17-06-2024 - National Library of Medicine

Diabetes has a significant global prevalence. Chronic hyperglycemia affects multiple organs and tissues, including bones. A large number of diabetic patients develop osteoporosis however, the precise relationship between diabetes and osteoporosis remains incompletely elucidated. The activation of the AGE-RAGE signaling pathway hinders the differentiation of osteoblasts and weakens the process ... Read more...

50. A study on the effects of visual condition on postural stability in adults with and without chronic low back pain

17-06-2024 - National Library of Medicine

This study was conducted to compare postural stability during repeated unilateral standing tasks between adults with and without chronic low back pain (LBP) while considering visual input. The study involved 26 participants with LBP and 39 control participants. Each participant performed three trials of standing tasks on the dominant limb using a stable platform. Read more...

51. Correction: move to health-a holistic approach to the management of chronic low back pain: an intervention and implementation protocol developed for a pragmatic clinical trial

17-06-2024 - National Library of Medicine

No abstract Read more...

52. Sensorimotor integration in chronic low back pain

15-06-2024 - National Library of Medicine

Chronic low back pain (CLBP) impacts on spine movement. Altered sensorimotor integration can be involved. Afferents from the lumbo-pelvic area might be processed differently in CLBP and impact on descending motor control. This study aimed to determine whether afferents influence the corticomotor control of paravertebral muscles in CLBP. Fourteen individuals with CLBP (11 females) and 13 ... Read more...

53. Associations of sleep behaviors and genetic risk with risk of incident osteoporosis: A prospective cohort study of 293,164 participants

15-06-2024 - National Library of Medicine

CONCLUSIONS: Four unhealthy sleep behaviors and sleep behavior patterns were associated to increased OP risk, with insomnia contributing the most to OP incidence, while genetic risk for OP modified this association. These findings underscore the crucial role of adhering to healthy sleep behaviors for effective OP prevention. Read more...

54. Low back pain self-management mobile applications: a systematic review on digital platforms

14-06-2024 - National Library of Medicine

CONCLUSION: Some applications have the potential to complement in-person treatment in terms of validity, acceptability and clinical usefulness in pain management. However, barriers such as lack of partnership between healthcare providers and patients, limited evidence-based content, social support, cultural relevance, cost, language, security and privacy can limit their sustained use. Read more...

55. Establishing central sensitization inventory cut-off values in Dutch-speaking patients with chronic low back pain by unsupervised machine learning

14-06-2024 - National Library of Medicine

CONCLUSION: This study found distinct patient subgroups. An overall CSI cut-off value of 35 was suggested. This study may provide new insights into identifying HACS-related patterns and contributes to establishing accurate cut-off values. Read more...

56. Risk factors and clinical prediction models for osteoporosis in pre-dialysis chronic kidney disease patients

14-06-2024 - National Library of Medicine

CONCLUSION: Risk factors for osteoporosis vary by gender and renal function stages. The nomogram clinical prediction models we constructed may aid in the rapid screening of patients at high risk of osteoporosis. Read more...

57. Enkephalin Rescues Temporomandibular Joint Pain-Related Behavior in Rats

14-06-2024 - National Library of Medicine

Temporomandibular joint disorders include a variety of clinical syndromes that are difficult to manage if associated with debilitating severe jaw pain. Thus, seeking additional experimental therapies for temporomandibular joint pain reduction is warranted. Targeted enkephalin gene therapy approaches provide clear promise for pain control. The studies detailed here indicate significant ... Read more...

58. Cognitive behavioural interventions led by a physiotherapist in chronic non-specific low back pain: A systematic review and meta-analysis

14-06-2024 - National Library of Medicine

CONCLUSION: Results of CBI, especially cognitive functional therapy, seem promising in disability management despite a substantial heterogeneity. Furthermore, we found no difference in quality of life. Read more...

59. Assessment and management patterns for chronic musculoskeletal pain in the family practice setting

14-06-2024 - National Library of Medicine

CONCLUSIONS: Pain assessment is primarily limited to pain intensity scales which may contribute to worse patient outcomes. Given that most respondents believe primary care/family medicine should be primary responsible for the care of patients with osteoarthritis, awareness of and comfort with existing guidelines, validated assessment instruments and the comprehensive pain assessment models ... Read more...

60. Associations between special diet and incidence risk of osteoporosis: a Mendelian randomization study

14-06-2024 - National Library of Medicine

CONCLUSION: Our research has uncovered a notable correlation between a gluten-free diet and the occurrence of osteoporosis. Furthermore, it exerts a promoting influence on the onset of osteoporosis, which stands in direct contradiction to the therapeutic principles for Celiac Disease's complications. As such, a novel association among these three elements is postulated. Read more...

61. Risk of unfavorable pain prognosis impacts walking physiomechanical parameters and psychophysiological workload in sufferers of chronic low back pain

CONCLUSION: Psychosocial factors may affect SSW in people with CLBP but not among the risk strata. An unfavorable prognosis for pain could jeopardize the psychophysiological capacity to withstand walking demands. Read more...

62. Critically appraised paper: A combined digital technology program was not superior to usual care on knee pain following total knee replacement [synopsis]

No abstract Read more...

63. Critically appraised paper: A combined digital technology program was not superior to usual care on knee pain following total knee replacement [Commentary]

No abstract Read more...

64. Critically appraised paper: Telerehabilitation consultations with a physiotherapist are non-inferior to in-person consultations for chronic knee pain [synopsis]

No abstract Read more...

65. Critically appraised paper: Telerehabilitation is non-inferior to in-person care for chronic knee pain [commentary]

No abstract Read more...

66. Prognostic factors for return to work in patients affected by chronic low back pain: a systematic review

Chronic low back pain (LBP) represents a leading cause of absenteeism from work. An accurate knowledge of complex interactions is essential in understanding the difficulties of return to work (RTW) experienced by workers affected by chronic LBP. This study aims to identify factors related to chronic LBP, the worker, and the psycho-social environment that could predict and influence the ... Read more...

67. Psychometric properties of the Pictorial Pain Interference Questionnaire for Assessing Functional Interference in Chronic Low Back Pain

CONCLUSIONS: The PPIQ is a valid instrument with good psychometric properties for measuring functional interference in people with CLBP. This questionnaire appears to be a feasible alternative when language or communication barriers exist in CLBP population. Read more...

68. Letter to the editor regarding "Bone mineral density, osteopenia, osteoporosis, and fracture risk in patients with atopic dermatitis: A systematic review and meta-analysis"

No abstract Read more...

69. Barriers and facilitators to engaging with a digital self-management programme for painful distal upper limb musculoskeletal disorders: A qualitative exploratory study

CONCLUSION: The identified digital design features of importance to participants will inform the design of a digital self-management rehabilitation programme for people living with DUL-MSDs. Addressing the barriers and facilitators to engagement with a DHI is essential in ensuring its relevance and acceptability to those who will use it. Read more...

70. Osteoporosis and Fracture Risk Associated with Novel Antidepressants: A Systematic Review and Meta-Analysis

11-06-2024 - National Library of Medicine

CONCLUSIONS: This meta-analysis provided strong evidence that novel antidepressants, especially widely used SSRIs, have detrimental impacts on bone health. The observed associations with decreased BMD and doubled hip fracture risk have important clinical implications. Read more...

71. Factors influencing imaging clinical decision-making in low back pain management. A scoping review

11-06-2024 - National Library of Medicine

CONCLUSIONS: The results of this scoping review challenge the perception that imaging CDM is purely based on clinical history and objective findings. There is a complex interplay between clinical features, patient and clinician characteristics, beliefs, and environment. These findings should be considered when designing strategies to address inappropriate imaging behaviour. Read more...

72. Work-related musculoskeletal disorders and risk factors among weavers: A cross-sectional study

10-06-2024 - National Library of Medicine

CONCLUSION: Work-related musculoskeletal disorders are common among weavers and LBP is the most frequently cited disorder and the primary reason for work interruptions and a decrease of activities. The prevalence of WRMSDs is associated with professional and personal factors. Actions based on ergonomic rules are necessary to prevent WRMSDs. Read more...

73. Health technology assessment in musculoskeletal radiology: the case study of EOSedge

10-06-2024 - National Library of Medicine

CONCLUSIONS: EOS technologies may be a viable alternative to conventional radiographs. EOSedge has the same intended use and similar indications for use, technological characteristics, and operation principles as the EOS System and provides significant dose reduction factors for whole spine imaging compared to the EOS System without compromising image quality. Read more...

74. Factors influencing the use of an artificial intelligence-based app (selfBACK) for tailored self-management support among adults with neck and/or low back pain

10-06-2024 - National Library of Medicine

CONCLUSIONS: This study provides insight into possible strategies to improve an mHealth service. Furthermore, it shows that adults with neck and/or low back pain are willing and ready to receive blended treatment. Read more...

75. Mitochondrial mechanisms in the pathogenesis of chronic inflammatory musculoskeletal disorders

07-06-2024 - National Library of Medicine

Chronic inflammatory musculoskeletal disorders characterized by prolonged muscle inflammation, resulting in enduring pain and diminished functionality, pose significant challenges for the patients. Emerging scientific evidence points to mitochondrial malfunction as a pivotal factor contributing to these ailments. Mitochondria play a critical role in powering skeletal muscle activity, ... Read more...

76. Smartphone applications are used for self-management, telerehabilitation, evaluation and data collection in low back pain healthcare: a scoping review

07-06-2024 - National Library of Medicine

CONCLUSIONS: This scoping review revealed a notable interest in the scientific literatures regarding the use of smartphone apps for LBP patients. The identified purposes point to current scientific status and

perspectives for further studies including RCTs and systematic reviews targeting specific usage. Read more...

77. Preferences and Avoidance of Sleeping Positions Among Patients With Chronic Low Back Pain: A Cross-Sectional Study

07-06-2024 - National Library of Medicine

Background Chronic low back pain (CLBP) is a common issue among the working-age population. Sleeping position may affect CLBP, with the prone position commonly suggested to be avoided. This study aims to examine the relationship between preferred and avoided sleeping positions and to explore the frequency of increased pain in various sleeping positions among patients with nonspecific CLBP and ... Read more...

78. Exploring the interplay between paraspinal muscular status and bone health in osteoporosis and fracture risk: a comprehensive literature review on computed tomography (CT) and magnetic resonance imaging (MRI) studies

07-06-2024 - National Library of Medicine

CONCLUSIONS: The findings suggest that paraspinal muscle health may be a significant factor in identifying individuals at risk for OP and fractures. Further investigation is needed to explore the potential of paraspinal muscles in preventing these conditions. Read more...

79. Enhancing Musculoskeletal Injection Safety: Evaluating Checklists Generated by Artificial Intelligence and Revising the Preformed Checklist

06-06-2024 - National Library of Medicine

Background Musculoskeletal disorders are a significant global health issue, necessitating advanced management strategies such as intra-articular and extra-articular injections to alleviate pain, inflammation, and mobility challenges. As the adoption of these interventions by physicians grows, the importance of robust safety protocols becomes paramount. This study evaluates the effectiveness ... Read more...

80. The prevalence and risk factors of work-related musculoskeletal disorders among nurses in China: A systematic review and meta-analysis

06-06-2024 - National Library of Medicine

CONCLUSION: The overall prevalence of work-related musculoskeletal disorders among clinical nursing staff in China was 79 %. Age >35 years, length of service ≥10 years, marital status (married), heavy workload, weekly work hours >40 h, daily work hours >8 h, strong sense of work fatigue, and night shift frequency were identified as risk factors. Nursing administrators and staff can take ... Read more...

Back to Top

MSK in child and adolescent health

MSK in child and adolescent health

1. Relationship between mental workload and musculoskeletal disorders with intention to leave service among nurses working at neonatal and pediatric departments: a cross-sectional study in Iran

26-06-2024 - National Library of Medicine

CONCLUSIONS: Planning for appropriate allocation of night shifts, investigating the etiology of musculoskeletal disorders and providing solutions for reducing mental workload should be prioritized by policymakers, while maintaining pediatric nurses' motivation for making efforts. Read more...

2. Self-esteem, self-concept, and body image of young people with rheumatic and musculoskeletal diseases: A systematic literature review

19-06-2024 - National Library of Medicine

CONCLUSION: This review identifies important gaps and areas of improvement for future research in these issues in young patients with RMDs. This review highlights the need to actively engage patients and ensure that their psychological concerns are addressed to improve their healthcare and long-term quality of life outcomes. Read more...

3. The experience of caregiving for children with rare musculoskeletal conditions: a qualitative study in arthrogryposis multiplex congenita

14-06-2024 - National Library of Medicine

BACKGROUND: Arthrogryposis multiplex congenita (AMC) is a group of rare musculoskeletal conditions that is associated with complex healthcare needs and long-term follow up. The literature reports significant direct, indirect, and psychosocial costs for caregivers of children with neuromuscular conditions. Due to mobility limitations and frequent hospital visits, ... Read more...

4. Neighborhood Deprivation and Treatment Challenges in Pediatric Musculoskeletal Infections: A Socioeconomic Analysis

10-06-2024 - National Library of Medicine

Introduction Musculoskeletal (MSK) infections are prevalent in the pediatric population, with previous research highlighting the significant impact of socioeconomic status (SES) on treatment outcomes. However, the specific link in pediatric cohorts remains poorly understood. The Area Deprivation Index (ADI), a measure of neighborhood-level disadvantage, serves as a crucial marker for SES. Read more...

5. Corrigendum to Prevalence of disabling musculoskeletal pain in children and adolescents in Brazil: Across-sectional study [Brazilian Journal of Physical Therapy 28 (2024) 100593]

06-06-2024 - National Library of Medicine

No abstract Read more...

Back to Top

MSK and multi-morbidity

MSK and multi-morbidity

1. Identifying factors associated with locomotive syndrome using machine learning methods: The third survey of the research on osteoarthritis/osteoporosis against disability study

29-06-2024 - National Library of Medicine

CONCLUSIONS: The identified nine items could aid early LS detection, enhancing understanding and prevention. Geriatr Gerontol Int 2024 ••: ••-••. Read more...

2. Musculoskeletal Disorders Related to Upper Limb Disability after One-Year Lung Cancer Resection

27-06-2024 - National Library of Medicine

Lung resection represents the main curative treatment in lung cancer however, this surgical process leads to several disorders in tissues and organs. Previous studies have reported cardiovascular, pulmonary, and muscular disturbances that affect the functional capacity of these patients in the short, mid, and long term. However, upper limb impairment has been scarcely explored in the long ... Read more...

3. 10-year multimorbidity patterns among people with and without rheumatic and musculoskeletal diseases: an observational cohort study using linked electronic health records from Wales, UK

21-06-2024 - National Library of Medicine

CONCLUSION: People with RMDs are approximately 1.5 times as likely to have multimorbidity as the general population and provide a high-risk group for targeted intervention studies. The individuals with RMDs experience a greater load of coexisting health conditions, which tend to manifest at earlier ages. This phenomenon is particularly pronounced among women. Read more...

4. Psychometric Properties of Chosen Scales Evaluating Disability in Low Back Pain-Narrative Review

19-06-2024 - National Library of Medicine

Low back pain (LBP) is one of the most common disabling conditions. This disability significantly reduces the quality of life of LBP patients. This article reviews the most common and well-known measures currently used to assess disability in LBP, such as the Oswestry Disability Index (ODI), the Roland-Morris Disability Questionnaire (RMDQ), the Quebec Back Pain Disability Scale (QBPDS), ... Read more...

5. Musculoskeletal Diseases as the Most Prevalent Component of Multimorbidity: A Population-Based Study

19-06-2024 - National Library of Medicine

Background/Objectives: Due to their high frequency, common risk factors, and similar pathogenic mechanisms, musculoskeletal disorders (MSDs) are more likely to occur with other chronic illnesses, making them a "component disorder" of multimorbidity. Our objective was to assess the prevalence of multimorbidity and to identify the most common clusters of diagnosis within multimorbidity states, ... Read more...

6. Genetic link between depression and musculoskeletal disorders: insights from Mendelian randomization analysis

17-06-2024 - National Library of Medicine

CONCLUSION: The MR analysis conducted in this study provides evidence supporting a genetic link between depression and cervical spondylosis, as well as KOA. Targeted interventions to manage depression in susceptible populations may contribute to lowering the risk of cervical spondylosis and KOA in these cohorts. Read more...

7. Association of osteoporosis with sarcopenia and its components among community-dwelling older Chinese adults with different obesity levels: A cross-sectional study

14-06-2024 - National Library of Medicine

We aimed to investigate whether sarcopenia and its components are associated with osteoporosis in community-dwelling older Chinese adults with different obesity levels. This cross-sectional study included 1938 participants (42.1% male) with a mean age of 72.1 ± 5.9 years. The categorization of individuals into various weight categories was based on the Working Group on Obesity in China's ... Read more...

8. Comparing assessment methods of low back pain related disability in student circus artists: A cross-sectional study

07-06-2024 - National Library of Medicine

CONCLUSION: Our study highlights the potential of the ADI as an effective tool for assessing LBP-related disability in circus artists, supported by a strong correlation with the NPRS. Read more...

9. Osteoporosis and fracture risk are multifactorial in patients with inflammatory rheumatic diseases

03-06-2024 - National Library of Medicine

Patients with inflammatory rheumatic and musculoskeletal diseases (iRMDs) such as rheumatoid arthritis, connective tissue diseases, vasculitides and spondyloarthropathies are at a higher risk of osteoporosis and fractures than are individuals without iRMDs. Research and management recommendations for osteoporosis in iRMDs often focus on glucocorticoids as the most relevant risk factor, ... Read more...

10. The association between the non-high-density lipoprotein cholesterol to high-density lipoprotein cholesterol ratio and the risk of osteoporosis among U.S. adults: analysis of NHANES data

03-06-2024 - National Library of Medicine

CONCLUSIONS: According to this research, there appears to be a negative correlation between BMD and NHHR in US Adults. To clarify the precise physiological mechanisms by which the NHHR contributes to the onset of osteoporosis, more research is necessary. Read more...

11. The influence of pain hypersensitivity and psychological factors on pain and disability in the transition from acute to chronic low back pain: a longitudinal exploratory investigation and cluster analysis

02-06-2024 - National Library of Medicine

Pain hypersensitivity is present in some people with acute low back pain (LBP) and thought to be involved in the development of chronic LBP. Early evidence suggests that pain hypersensitivity in acute LBP precedes poor long-term outcome. We aimed to examine whether the presence of pain hypersensitivity in acute LBP influenced recovery status at six months and differentiated how pain and ... Read more...

12. Constructing and validating a predictive nomogram for osteoporosis risk among Chinese single-center male population using the systemic immune-inflammation index

02-06-2024 - National Library of Medicine

Osteoporosis (OP) is a bone metabolism disease that is associated with inflammatory pathological mechanism. Nonetheless, rare studies have investigated the diagnostic effectiveness of immune-inflammation index in the male population. Therefore, it is interesting to achieve early diagnosis of OP in male population based on the inflammatory makers from blood routine examination. Read more...

13. The association of waist circumference with bone mineral density and risk of osteoporosis in US adult: National health and nutrition examination survey

31-05-2024 - National Library of Medicine

CONCLUSION: In US adults, there is a positive association between WC and BMD, and WC may be a protective factor for the risk of OP. The association between WC and BMD as well as OP exhibits a non-linear relationship. Read more...

14. Association of coffee and tea consumption with osteoporosis risk: A prospective study from the UK biobank

31-05-2024 - National Library of Medicine

CONCLUSION: Our findings highlight the potential benefits of moderate coffee and tea consumption in reducing the risk of osteoporosis. Read more...

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MSK health and inequalities

MSK health and inequalities

1. The Bioactive Compounds of Epimedium and Their Potential Mechanism of Action in Treating Osteoporosis: A Network Pharmacology and Experimental Validation Study

27-06-2024 - National Library of Medicine

Osteoporosis is a global health challenge characterized by bone loss and microstructure deterioration, which urgently requires the development of safer and more effective treatments due to the significant adverse effects and limitations of existing drugs for long-term treatment. Traditional Chinese medicine, like Epimedium, offers fewer side effects and has been used to treat osteoporosis, ... Read more...

2. Descriptive Epidemiology of Musculoskeletal Injuries During Marine Corps Recruit Training in Gender-Integrated and Male-Only Training Units

26-06-2024 - National Library of Medicine

CONCLUSIONS: This was the first study to assess the burden of MSIs concurrently among female and male USMC recruits in gender-integrated training. MSIs, especially those affecting the lower extremity, continue to occur frequently in this population. Female recruits are more susceptible to MSIs during USMC recruit training compared to male recruits and are especially prone to hip MSIs. Read more...

3. A Secondary Analysis of Gender Respiratory Features for Ultrasonography Bilateral Diaphragm Thickness, Respiratory Pressures, and Pulmonary Function in Low Back Pain

26-06-2024 - National Library of Medicine

The aim of the present study was to determine the gender respiratory differences of bilateral diaphragm thickness, respiratory pressures, and pulmonary function in patients with low back pain (LBP). A sample of 90 participants with nonspecific LBP was recruited and matched paired by sex (45 women and 45 men). Respiratory outcomes included bilateral diaphragm thickness by ultrasonography, ... Read more...

4. "Socioeconomic status, osteoporosis and fragility fractures"

23-06-2024 - National Library of Medicine

Low socioeconomic status (SES) is associated with a higher risk of fragility fractures, as well as higher mortality in the first year post-fracture. The SES variables that have the greatest impact are educational level, income level, and cohabitation status. Significant disparities exist among racial and ethnic minorities in access to osteoporosis screening and treatment. Read more...

5. When is a fracture not just a fracture? Exploring emergency nurses' knowledge of osteoporosis in the West of Ireland

23-06-2024 - National Library of Medicine

CONCLUSION: Emergency nurses play a pivotal role in reducing osteoporosis and fragility fractures, by disseminating information to patients on prevention and management. This study highlighted that educational initiatives are required to address the deficiencies amongst emergency nurses' understanding of osteoporosis. Enhancing knowledge will inevitably lead to increased public awareness in ... Read more...

6. Evaluating the Role of Probiotics, Prebiotics, and Synbiotics Supplementation in Age-related Musculoskeletal Disorders in Older Adults: A Systematic Review

22-06-2024 - National Library of Medicine

The aim of this systematic review is to evaluate musculoskeletal changes in response to prebiotics, probiotics, or synbiotics supplementation in older adults or in animal models of aging musculoskeletal disorders. A comprehensive search was conducted on electronic databases, including PubMed/Medline, Cochrane, and Web of Science until April 2024. The quality assessment of clinical trials was ... Read more...

7. Prevalence of work-related musculoskeletal disorders and its determinants among endoscopists in India

13-06-2024 - National Library of Medicine

No abstract Read more...

8. Advanced subject-specific neck musculoskeletal modeling unveils sex differences in muscle moment arm and cervical spine loading

09-06-2024 - National Library of Medicine

Neck pain and injuries are growing healthcare burdens with women having a higher incidence rate and poorer treatment outcomes than males. A better understanding of sex differences in neck biomechanics, foundational for more targeted, effective prevention or treatment strategies, calls for more advanced

subject-specific musculoskeletal modeling. Current neck musculoskeletal models are based on ... Read more...

9. Knowledge, Attitudes, Practices, and Awareness Levels Among Indian Postmenopausal Women About Osteoporosis and Its Relationship With Sociodemographic Factors: A Cross-Sectional Study From Northern India

04-06-2024 - National Library of Medicine

Background Osteoporosis is a silent disease and can be prevented by providing correct and appropriate information to the individuals at risk. Therefore, we aim to find out the levels of knowledge, attitudes, and behaviors of postmenopausal women, the highest-risk group. Methods Between May 2021 and December 2023, a cross-sectional study was done in the Military Hospital in Ambala, India, ... Read more...

10. Global pattern, trend, and cross-country inequality of early musculoskeletal disorders from 1990 to 2019, with projection from 2020 to 2050

04-06-2024 - National Library of Medicine

CONCLUSIONS: Multilevel interventions should be initiated to prevent disease burden related to RA, NP, LBP, gout, and OMSKDs among individuals ages 15-19 and to OA among individuals ages 30-34 to tightly control high BMI and kidney dysfunction. Read more...

11. Predictors of musculoskeletal disorders among special education teachers in Sabah, Malaysia

03-06-2024 - National Library of Medicine

Special education teachers encounter considerable occupational challenges, yet there is limited information concerning musculoskeletal disorders (MSD) within this group. Therefore, this study aimed to address this gap by determining the prevalence of MSD, investigating associated factors of MSD, and identifying predictors of MSD among special education teachers. Read more...

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MSK health and nutrition

MSK health and nutrition

1. The role of magnesium in the pathogenesis of osteoporosis

21-06-2024 - National Library of Medicine

Magnesium (Mg), a nutritional element which is essential for bone development and mineralization, has a role in the progression of osteoporosis. Osteoporosis is a multifactorial disease characterized by significant deterioration of bone microstructure and bone loss. Mg deficiency can affect bone structure in an indirect way through the two main regulators of calcium homeostasis (parathyroid ... Read more...

2. BMI mediates the association of serum uric acid with bone health: a cross-sectional study of the National Health and Nutrition Examination Survey (NHANES)

19-06-2024 - National Library of Medicine

CONCLUSIONS: A complicated relationship between SUA and bone health in different populations was observed. Maintaining SUA within a specific range may be beneficial to bone health. In addition, BMI may play an important role in the association between SUA and bone health, but considering the limitations of this study, further prospective research is required. Read more...

3. Apoptotic vesicles rescue impaired mesenchymal stem cells and their therapeutic capacity for osteoporosis by restoring miR-145a-5p deficiency

17-06-2024 - National Library of Medicine

Apoptotic vesicles (apoVs) play a vital role in various pathological conditions however, we have yet to fully understand their precise biological effects in rescuing impaired mesenchymal stem cells (MSCs) and regulating tissue homeostasis. Here, we proved that systemic infusion of bone marrow MSCs derived from wild-type (WT) mice effectively improved the osteopenia phenotype and hyperimmune ... Read more...

4. A local audit evaluating bone health in patients with functional hypothalamic amenorrhoea secondary to an eating disorder and a review of the application of hormone therapy in this clinical setting

14-06-2024 - National Library of Medicine

It is widely known that estrogen has a fundamental role to play in skeletal homeostasis. In the most reductionist sense, the action of estrogen can be surmised as anti-resorptive. Estrogen prevents the break-down of bone. It therefore follows that estrogen deficiency states, such as the menopause and functional hypothalamic amenorrhoea (FHA), are often characterised by increased bone ... Read more...

5. Eggshell membrane as promising supplement to maintain bone health: A systematic review

14-06-2024 - National Library of Medicine

Bone loss is a well-known phenomenon in the older population leading to increased bone fracture risk, morbidity, and mortality. Supplementation of eggshell membrane (ESM) is evaluated due to its possible application to prevent bone loss and usage in osteoporosis therapy. The similar organic chemical composition of ESM and human bone is described in detail as both mainly consist of collagen ... Read more...

6. Clinical Practice Guidelines of the Latin American Federation of Endocrinology for the use of vitamin D in the maintenance of bone health: recommendations for the Latin American context

08-06-2024 - National Library of Medicine

INTRODUCTION: These guidelines aim to provide evidence-based recommendations for the supplementation of Vitamin D in maintaining bone health. An unmet need persists in Latin American regarding the availability of clinical and real-world data for rationalizing the use of vitamin D supplementation. The objective of these guidelines is to establish clear and practical recommendations for ... Read more...

7. Endoplasmic reticulum protein of 57 kDa sulfhydration promotes intestinal calcium absorption to attenuate primary osteoporosis

03-06-2024 - National Library of Medicine

Endogenous hydrogen sulfide (H(2)S) plays an important role in bone metabolism. However, the exact role of H(2)S in intestinal calcium and phosphorus absorption and its potential in preventing and treating primary osteoporosis remains unknown. Therefore, this study aimed to investigate the potential of H(2)S in promoting intestinal calcium and phosphorus absorption and alleviating primary ... Read more...

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MSK health and workplace wellbeing

MSK health and workplace wellbeing

1. The Digital Economy and Hybrid Work Call for a Review of Compensation Criteria for Musculoskeletal Disorders

26-06-2024 - National Library of Medicine

Work-related musculoskeletal disorders (WRMSD) pose a significant occupational health challenge in Europe. The digitization of the economy substantially reshaped the nature and organization of work. The proliferation of hybrid working, characterized by a combination of office-based and remote work, has been accelerated by the COVID-19 pandemic. This review covers hybrid forms of work, ... Read more...

2. Usual care for low back pain and barriers to best practice: A cross-sectional study in Danish general practice

26-06-2024 - National Library of Medicine

CONCLUSIONS: This study provides detailed insights into the management of LBP in Danish general practice. It reveals a complex landscape of patient engagement, varying management strategies, and differing perceptions of care content between patients and clinicians. Patients were often engaged in self-management activities and clinicians reported few barriers to providing best practice care. Read more...

3. Work-related back pain among diagnostic radiographers in Ghana: A qualitative study

18-06-2024 - National Library of Medicine

CONCLUSION: Assessing the level of ergonomic risks is critical to identifying, analysing and controlling workplace risk factors that can lead to work-related back pain among diagnostic radiographers. Future research is recommended to design and evaluate a multicomponent ergonomic intervention for the prevention of work-related back pain among diagnostic radiographers to enable them deliver ... Read more...

4. Factors Associated With Reporting Attitudes of Work-Related Musculoskeletal Disorders Among Direct Care Workers in South Korea

18-06-2024 - National Library of Medicine

CONCLUSIONS/APPLICATIONS TO PRACTICE: This study highlights the vital influence of workers' attitudes on reporting work-related injuries and illnesses. Occupational health providers should employ strategies, such as tailored safety training and management commitment, with a focus on addressing the unique needs of long-tenured and musculoskeletal-exposed workers. Read more...

5. Associations between day and night-shifts, work-related musculoskeletal symptoms and absenteeism in the manufacturing industry

14-06-2024 - National Library of Medicine

Objectives. Associations between shift-work, musculoskeletal symptoms and absenteeism are poorly investigated in the manufacturing industry. This study aimed to investigate associations between working schedule, musculoskeletal symptoms and days of absenteeism among pulp and paper industry workers. Methods. Musculoskeletal symptoms of 904 workers were assessed through the Nordic ... Read more...

6. Work-related musculoskeletal disorders among desludging operators in Uganda

13-06-2024 - National Library of Medicine

CONCLUSION: The prevalence of WMSDs was high among desludging operators in Uganda. Desludging operators' ability to influence the availability of equipment needed to do their work and frequency of feeling that everything done was an effort were significantly associated with WMSDs. Interventions should focus on ensuring adequate provision of ergonomic equipment and promoting practices that ... Read more...

7. A qualitative study of work-related musculoskeletal disorders among midwives in selected hospitals in Ho municipality, Ghana

13-06-2024 - National Library of Medicine

CONCLUSION: To lower the rate of work-related musculoskeletal disorders among midwives and increase work efficiency and productivity, educational programs on prevention and coping mechanisms for musculoskeletal disorders should be made mandatory for midwives. Read more...

8. Magnitude of work-related musculoskeletal disorders and its associated factors among Ethiopian nurses: a facility based cross-sectional study

CONCLUSION: In this study, the prevalence of work-related musculoskeletal disorders among nurses was high. Working in room/ward, working in malposition, have no on job training to prevent work-related musculoskeletal disorders and bending or twisting back during work were identified as associated factors. Since work-related musculoskeletal disorders are preventable, ... Read more...

MSK health data and surveillance

MSK health data and surveillance

1. Effects of subtalar arthroereisis in children, assessed on the basis of quality-of-life questionnaires

CONCLUSIONS: The employment of subtalars arthroereisis has a positive effect on the quality of life of children with flat feet. The surgery contributes to a reduction in pain and other abnormal symptoms that are associated with flat feet. In addition, physiotherapy performed after the procedure had a positive effect on the healing process and contributed to the improvement of the children's ... Read more...

2. Translation and validation of the French version of the child perceptions questionnaire for children aged 11 to 14 years old (CPQ11-14) short-form

CONCLUSION: The French CPQ11-14 is valid to assess the impact of oral health on children's quality of life. Read more...

3. Large language model-driven sentiment analysis for facilitating fibromyalgia diagnosis

CONCLUSION: This proof-of-concept study suggests LLM-driven sentiment analysis, especially with prompt engineering, may facilitate FM diagnosis by detecting subtle differences in pain expression. Further validation is warranted, particularly the inclusion of secondary FM patients. Read more...

4. Differential Effects of Intra-Abdominal Hypertension and ARDS on Respiratory Mechanics in a Porcine Model

Background and Objectives: Intra-abdominal hypertension (IAH) and acute respiratory distress syndrome (ARDS) are common concerns in intensive care unit patients with acute respiratory failure (ARF). Although both conditions lead to impairment of global respiratory parameters, their underlying mechanisms differ substantially. Therefore, a separate assessment of the different respiratory ... Read more...

5. The Effect of Neuronal CoQ10 Deficiency and Mitochondrial Dysfunction on a Rotenone-Induced Neuronal Cell Model of Parkinson's Disease

Parkinson's disease (PD) is the second most prevalent neurodegenerative disorder currently affecting the ageing population. Although the aetiology of PD has yet to be fully elucidated, environmental factors such as exposure to the naturally occurring neurotoxin rotenone has been associated with an increased risk of developing PD. Rotenone inhibits mitochondrial respiratory chain (MRC) complex ... Read more...

6. Local E-rhBMP-2/β-TCP Application Rescues Osteocyte Dendritic Integrity and Reduces Microstructural Damage in Alveolar Bone Post-Extraction in MRONJ-like Mouse Model

The pathology of medication-related osteonecrosis of the jaw (MRONJ), often associated with antiresorptive therapy, is still not fully understood. Osteocyte networks are known to play a critical role in maintaining bone homeostasis and repair, but the exact condition of these networks in MRONJ is unknown. On the other hand, the local application of E-coli-derived Recombinant Human Bone ... Read more...

7. Validity and Reliability of an Arabic Version of the Survey Instrument for Natural History, Aetiology and Prevalence of Patellofemoral Pain Studies: A Cross-Sectional Study

27-06-2024 - National Library of Medicine

CONCLUSIONS: The A-SNAPPS was cross-culturally adapted and validated, demonstrating very strong reliability. Read more...

8. Combined regenerative rehabilitation improves recovery following volumetric muscle loss injury in a rat model

26-06-2024 - National Library of Medicine

Volumetric muscle loss (VML) injury causes irreversible deficits in muscle mass and function, often resulting in permanent disability. The current standard of care is physical therapy, but it is limited in mitigating functional deficits. We have previously optimized a rehabilitation technique using electrically stimulated eccentric contraction training (EST) that improved muscle mass, ... Read more...

9. Validation of continuous intraabdominal pressure measurement: feasibility and accuracy assessment using a capsular device in in-vivo studies

26-06-2024 - National Library of Medicine

CONCLUSION: The use of capsular sensors for continuous and accurate assessment of IAP marks a significant advancement in the field of critical care monitoring. The high correlation between measurements from different locations and methods underscores the potential of capsular devices to transform clinical practices by providing reliable, non-invasive IAP monitoring. Read more...

10. Determining the changes in morphology and loading status following medial displacement calcaneal osteotomy for flatfoot using patient-specific finite element models

26-06-2024 - National Library of Medicine

Medial displacement calcaneal osteotomy (MDCO) is the standard procedure for flatfoot. We investigated the effect of MDCO on the foot using a finite element analysis. Foot models were created from computed tomography data of 8 patients with flat feet. MDCO was performed on each model with bone translation distance of 4, 8, and 12 mm. The morphological changes, plantar pressures, ... Read more...

11. Using the Capture-Recapture Technique to Estimate the Ascertainment-Corrected Incidence of Musculoskeletal Injuries During Marine Corps Recruit Training

26-06-2024 - National Library of Medicine

CONCLUSIONS: This was the first study to utilize the CRC technique to access the ascertainment-corrected incidence of MSKIs among USMC recruits. There was significant undercounting in both sources of the data analyzed, and the extent of undercounting varied by both MSKI anatomical location and type. When 2 sources of data were utilized simultaneously, the percent of CRC-estimated MSKIs ... Read more...

12. Comparing gene expression profiles of adults with isolated spinal tuberculosis to disseminated spinal tuberculosis identified by 18FDG-PET/CT at time of diagnosis, 6- and 12-months follow-up: classifying clinical stages of spinal tuberculosis and monitoring treatment response (Spinal TB X cohort study)

25-06-2024 - National Library of Medicine

BACKGROUND: Tuberculosis (TB) is one of the top ten causes of death worldwide, with approximately 10 million cases annually. Focus has been on pulmonary TB, while extrapulmonary TB (EPTB) has received

little attention. Diagnosis of EPTB remains challenging due to the invasive procedures required for sample collection. Spinal TB (STB) accounts for 10% of EPTB and often leads to lifelong ... Read more...

13. Responsiveness and Minimal Clinically Important Difference of the Canadian Occupational Performance Measure Among Patients With Frozen Shoulder

25-06-2024 - National Library of Medicine

CONCLUSIONS AND RELEVANCE: The findings suggest that the COPM is a responsive outcome measure for patients with frozen shoulder. The established MCID values for the COPM can be valuable for interpreting changes in patient performance and satisfaction, thus aiding clinical interventions and research planning. Plain-Language Summary: This is the first study to review the effectiveness of the ... Read more...

14. Explainable Machine Learning Model to Predict Overall Survival in Patients Treated With Palliative Radiotherapy for Bone Metastases

25-06-2024 - National Library of Medicine

CONCLUSION: An explainable ML approach can provide a reliable prediction of 1-year survival after RT in patients with advanced cancer. The implementation of SHAP analysis provides an intelligible explanation of individualized risk prediction, enabling oncologists to identify the best strategy for patient stratification and treatment selection. Read more...

15. Gavage Strategy for Decoction Formula of Traditional Chinese Medicine in Osteosarcoma Model Mice

24-06-2024 - National Library of Medicine

Decoction formula is the most commonly used dosage form in traditional Chinese medicine and applied in clinical practice for thousands of years by trans-oral administration, which is characterized by quick effect, easy absorption, and individualized treatment based on the specific syndromes of patients. The quality of the decoction formula is directly responsible for the clinical efficacy of ... Read more...

16. Patient preferences for models of care for fibromyalgia: A discrete choice experiment

21-06-2024 - National Library of Medicine

CONCLUSION: This study has found that, although respondents express a preference for specialist care, provided by a Rheumatologist, they may be willing to trade-off this preference against other features within a model of care. This willingness to accept a different skill-mix (e.g., appointments with a GP or a Nurse Practitioner) has important implications for practice and policy, ... Read more...

17. The single point insulin sensitivity estimator (SPISE) is associated with bone health in Arab adults

21-06-2024 - National Library of Medicine

CONCLUSIONS: A significant inverse association between the SPISE index and BMD was observed in adults, suggesting a link between BMD and extra-skeletal health. Underlying mechanisms need to be investigated prospectively using BMD as secondary outcomes in lifestyle modification programs. Read more...

18. The Combined Therapy of Teriparatide and Raloxifene Improves Osseointegration of Dental Implants in the Osteoporotic Rabbit Model

21-06-2024 - National Library of Medicine

CONCLUSIONS: According to the results of the current study, combined therapy of teriparatide and raloxifene improves the BIC and osseointegration of titanium dental implants in osteoporotic bone compared with sequential or independent therapy with these agents. Read more...

19. A semi-automated cell tracking protocol for quantitative analyses of neutrophil swarming to sterile and S. aureus contaminated bone implants in a mouse femur model

20-06-2024 - National Library of Medicine

Implant-associated osteomyelitis remains a major orthopaedic problem. As neutrophil swarming to the surgical site is a critical host response to prevent infection, visualization and quantification of this dynamic behavior at the native microenvironment of infection will elucidate previously unrecognized mechanisms central to understanding the host response. We recently developed longitudinal ... Read more...

20. Exploring the relationship between oxidative stress status and inflammatory markers during primary Sjogren's syndrome: A new approach for patient monitoring

20-06-2024 - National Library of Medicine

CONCLUSION: Collectively, our data showed altered oxidant-antioxidant balance in pSS patients. MDA, NO, IL-1β, IL-6, TNF-α seem to be good indicators in monitoring disease activity. Oxidative stress was closely related to inflammation in pSS. Exploiting this relationship might provide valuable indicators in the follow-up and prognosis of pSS with a potential therapeutic value. Read more...

21. In Vitro Cell Culture Model for Osteoclast Activation during Estrogen Withdrawal

19-06-2024 - National Library of Medicine

Estrogen (17β-estradiol) deficiency post-menopause alters bone homeostasis whereby bone resorption by osteoclasts exceeds bone formation by osteoblasts, leading to osteoporosis in females. We established an in vitro model to examine the consequences of estrogen withdrawal (E2-WD) on osteoclasts derived from the mouse macrophage RAW 264.7 cell line and utilized it to investigate the mechanism ... Read more...

22. Bone Marrow Aspirate Concentrate Combined with Ultra-Purified Alginate Bioresorbable Gel Enhances Intervertebral Disc Repair in a Canine Model: A Preclinical Proof-of-Concept Study

19-06-2024 - National Library of Medicine

Although discectomy is commonly performed for lumbar intervertebral disc (IVD) herniation, the capacity for tissue repair after surgery is limited, resulting in residual lower back pain, recurrence of IVD herniation, and progression of IVD degeneration. Cell-based therapies, as one-step procedures, are desirable for enhancing IVD repair. This study aimed to investigate the therapeutic ... Read more...

23. Comparison of Machine Learning Algorithms Fed with Mobility-Related and Baropodometric Measurements to Identify Temporomandibular Disorders

19-06-2024 - National Library of Medicine

Temporomandibular disorders (TMDs) refer to a group of conditions that affect the temporomandibular joint, causing pain and dysfunction in the jaw joint and related muscles. The diagnosis of TMDs typically involves clinical assessment through operator-based physical examination, a self-reported questionnaire and imaging studies. To objectivize the measurement of TMD, ... Read more...

24. Induction of Human Wharton's Jelly of Umbilical Cord Derived Mesenchymal Stem Cells to Be Chondrocytes and Transplantation in Guinea Pig Model with Spontaneous Osteoarthritis

19-06-2024 - National Library of Medicine

Osteoarthritis (OA) is a degenerative joint disease commonly found in elderly people and obese patients. Currently, OA treatments are determined based on their condition severity and a medical professional's advice. The aim of this study was to differentiate human Wharton's jelly-derived mesenchymal stem cells (hWJ-MSCs) into chondrocytes for transplantation in OA-suffering guinea pigs. Read more...

25. Development of an Optical System for Strain Drop Measurement of Osteosarcoma Cells on Substrates with Different Stiffness

19-06-2024 - National Library of Medicine

Adherent cells perceive mechanical feedback from the underlying matrix and convert it into biochemical signals through a process known as mechanotransduction. The response to changes in the

microenvironment relies on the cell's mechanical properties, including elasticity, which was recently identified as a biomarker for various diseases. Here, we propose the design, development, ... Read more...

26. The Therapeutic Potential of Intra-Articular Injection of Synthetic Deer Antler Peptides in a Rat Model of Knee Osteoarthritis

19-06-2024 - National Library of Medicine

Synthetic deer antler peptides (TSKYR, TSK, and YR) stimulate the proliferation of human chondrocytes and osteoblasts and increase the chondrocyte content of collagen and glycosamino-glycan in vitro. This study investigated the peptide mixture's pain relief and chondroprotective effect in a rat model of collagenase-induced osteoarthritis. Thirty-six adult male Sprague-Dawley rats were divided ... Read more...

27. Combined application of mesenchymal stem cells and different glucocorticoid dosing alleviates osteoporosis in SLE murine models

18-06-2024 - National Library of Medicine

CONCLUSION: BMSCs effectively alleviate osteoporosis induced by SLE itself, as well as osteoporosis resulting from SLE combined with various doses of GC therapy. The therapeutic effects of BMSCs appear to be mediated by their influence on bone marrow B cells, T cell subsets, and associated cytokines. High-dose GC treatment exerts a potent anti-inflammatory effect but may hinder the ... Read more...

28. Epidemiology of non-trauma orthopedic conditions among inpatients admitted at a tertiary teaching and referral hospital in Kenya: A chart review

17-06-2024 - National Library of Medicine

Non-traumatic orthopedic conditions are pathological conditions involving musculoskeletal system that includes muscles, tendons, bone and joints and associated with frequent medical and surgical care and high treatment costs. There is paucity of information on the pattern of non-traumatic orthopedic conditions in low and middle income countries. The purpose of this study was to determine the ... Read more...

29. Assessment of Epidemiology and Clinical Profile of Psoriatic Arthritis Patients in India

17-06-2024 - National Library of Medicine

CONCLUSION: Our study provides an overview of the epidemiologic and clinical characteristics of psoriasis patients in India. These findings could be useful for early diagnosis of PsA and help clinicians in assessing the progression of psoriasis into PsA. Read more...

30. Load-induced blood marker kinetics in patients with medial knee compartment osteoarthritis are associated with accumulated load and patient reported outcome measures

17-06-2024 - National Library of Medicine

CONCLUSIONS: The distinct and differentiated physiological response to the walking stress depends on accumulated load and appears relevant for patient reported osteoarthritis outcome and quality of life and warrants further investigation in the context of disease progression.ClinicalTrials.gov registration: NCT02622204. Read more...

31. Alterations in DNA methylation machinery in a rat model of osteoarthritis of the hip

16-06-2024 - National Library of Medicine

CONCLUSIONS: The intra-articular administration of monoiodoacetate induced hip joint OA and decreased pain threshold. The DNA methylation machinery in the synovial tissues of hip OA was altered. Read more...

32. HDAC4 represses ER stress induced chondrocyte apoptosis by inhibiting ATF4 and attenuates cartilage degeneration in an osteoarthritis rat model

15-06-2024 - National Library of Medicine

CONCLUSION: The lack of HDAC4 expression partially contributes to increased ATF4, CHOP, and endoplasmic reticulum stress-induced chondrocyte apoptosis in OA pathogenesis. HDAC4 attenuates

cartilage damage by repressing ATF4-CHOP signaling-induced chondrocyte apoptosis in a rat model of OA. Read more...

33. DN4 questionnaire as a useful tool for evaluating the pharmacotherapeutic response to opioid pharmacotherapy in malignant neuropathy

15-06-2024 - National Library of Medicine

Objective: Tapentadol is a drug of choice for neuropathic cancer pain. DN4 questionnaire quickly determines neuropathic pain component. The aim of this study is to determine the correlation between neuropathic malignant pain component by applying tapentadol antidolorose pharmacotherapy in combination with palliative radiotherapy of osseous neuropathic metastatic changes in breast cancer ... Read more...

34. Risk factors for avascular necrosis of the femoral head after developmental hip dislocation reduction surgery and construction of Nomogram prediction model

14-06-2024 - National Library of Medicine

CONCLUSION: Preoperative IHDI grade, preoperative development of the femoral head ossification nucleus, final AI, and acetabular abduction angle exceeding 60° are risk factors for AVN development. This study successfully constructed a Nomogram prediction model for AVN after casting surgery for DDH that can predict the occurrence of AVN after casting surgery for DDH. Read more...

35. Enhancing rheumatology training: The POCRUS model for integrating ultrasound into clinical practice. (From APLAR imaging SIG)

14-06-2024 - National Library of Medicine

No abstract Read more...

36. Agreement and concurrent validity between telehealth and in-person diagnosis of musculoskeletal conditions: a systematic review

13-06-2024 - National Library of Medicine

OBJECTIVES: To assess the concurrent validity and inter-rater agreement of the diagnosis of musculoskeletal (MSK) conditions using synchronous telehealth compared to standard in-person clinical diagnosis. Read more...

37. Liraglutide, a glucagon-like peptide-1 receptor agonist, inhibits bone loss in an animal model of osteoporosis with or without diabetes

13-06-2024 - National Library of Medicine

INTRODUCTION: Liraglutide (Lrg), a novel anti-diabetic drug that mimics the endogenous glucagon-like peptide-1 to potentiate insulin secretion, is observed to be capable of partially reversing osteopenia. The aim of the present study is to further investigate the efficacy and potential anti-osteoporosis mechanisms of Lrg for improving bone pathology, bone- related parameters under imageology, ... Read more...

38. Reproducibility and repeatability of quantitative T2 and T2* mapping of osteosarcomas in a mouse model

13-06-2024 - National Library of Medicine

CONCLUSIONS: Our results demonstrated high repeatability and reproducibility of quantitative T2* and T2 mapping for monitoring the presence of TAMs in osteosarcomas. Read more...

39. An immune-related eleven-RNA signature-drived risk score model for prognosis of osteosarcoma metastasis

11-06-2024 - National Library of Medicine

This study aimed to determine an immune-related RNA signature as a prognostic marker, in this study, we developed a risk score model for predicting the prognosis of osteosarcoma metastasis. We first downloaded

the clinical information and expression data of osteosarcoma samples from the UCSC Xena and GEO databases, of which the former was the training set and the latter was the validation set. Read more...

40. Well-defined alginate oligosaccharides ameliorate joint pain and inflammation in a mouse model of gouty arthritis

10-06-2024 - National Library of Medicine

Background: Gouty arthritis causes severe pain and inflammation. Alginate oligosaccharides (AOSs) are natural products derived from alginate and have anti-inflammatory properties. We explored the potential effects of AOSs with different degrees of polymerization (Dp) on gouty arthritis and associated mechanisms. Methods: We established a mouse model of gouty arthritis by injecting monosodium ... Read more...

41. Establishment of orthotopic osteosarcoma animal models in immunocompetent rats through muti-rounds of in-vivo selection

07-06-2024 - National Library of Medicine

Immunodeficient murine models are usually used as the preclinical models of osteosarcoma. Such models do not effectively simulate the process of tumorigenesis and metastasis. Establishing a suitable animal model for understanding the mechanism of osteosarcoma and the clinical translation is indispensable. The UMR-106 cell suspension was injected into the marrow cavity of Balb/C nude mice. Read more...

42. Patient reported and functional outcome measures after surgical salvage procedures for posttraumatic radiocarpal osteoarthritis - a systematic review

07-06-2024 - National Library of Medicine

CONCLUSION: Evidence from this review did not support the indication for denervation in this particular patient population. In patients with SLAC/SNAC II, proximal row carpectomy might be favourable to a midcarpal arthrodesis solely based on better FE ROM of the radiocarpal joint after proximal row carpectomy. In terms of radiocarpal mobility, total wrist arthroplasty might be preferred to ... Read more...

43. The assessment of the validity, safety, and utility of ChatGPT for patients with herniated lumbar disc: A preliminary study

07-06-2024 - National Library of Medicine

ChatGPT is perceived as a potential tool for patients diagnosed with herniated lumbar disc (HLD) to ask questions concerning desired information, with provision for necessary responses. In this preliminary study, we assessed the validity, safety, and utility of ChatGPT in patients with HLD. Two physicians specializing in the treatment of musculoskeletal disorders discussed and determined the ... Read more...

44. Identification of hub genes related to metastasis and prognosis of osteosarcoma and establishment of a prognostic model with bioinformatic methods

07-06-2024 - National Library of Medicine

Osteosarcoma (OS) is the most common primary malignant bone tumor occurring in children and adolescents. Improvements in our understanding of the OS pathogenesis and metastatic mechanism on the molecular level might lead to notable advances in the treatment and prognosis of OS. Biomarkers related to OS metastasis and prognosis were analyzed and identified, and a prognostic model was ... Read more...

45. Discovery and preclinical evaluation of KYS202004A, a novel bispecific fusion protein targeting TNF-alpha and IL-17A, in autoimmune disease models

06-06-2024 - National Library of Medicine

The treatment of autoimmune and inflammatory diseases often requires targeting multiple pathogenic pathways. KYS202004A is a novel bispecific fusion protein designed to antagonize TNF-α and IL-17A, pivotal in the pathophysiology of autoimmune and inflammatory diseases. Our initial efforts focused on screening for optimal structure by analyzing expression levels, purity, and binding capabilities. Read more...

46. Making sense of Timothy syndrome with 3D human neuronal models

06-06-2024 - National Library of Medicine

In a recent issue of Nature, Chen and colleagues[1] reveal the potential for antisense oligonucleotides (ASOs) to rescue the neuropathological mechanisms underlying Timothy syndrome (TS) using three-dimensional neuronal models. Combining in vitro and in vivo approaches, the authors present a strategy to translate disease biology findings into potential therapeutics. Read more...

47. Parent-patient Discrepancies in the Quality of Life Assessment of Early-onset Scoliosis: A Comparison Between 2 Questionnaires Completed on 2 Different Time Points - A Preliminary Report

05-06-2024 - National Library of Medicine

CONCLUSIONS: The self-reported group had a general trend of worse results. Parents and caregivers may not accurately perceive the problems of EOS patients. Our findings indicate a disconnect between caregivers and the patients, as both parties underreported the other side in some domains. These findings suggest the challenges faced by EOS patients are not adequately reflected on proxy ... Read more...

48. HIF-1alpha and MIF enhance neutrophil-driven type 3 immunity and chondrogenesis in a murine spondyloarthritis model

05-06-2024 - National Library of Medicine

The hallmarks of spondyloarthritis (SpA) are type 3 immunity-driven inflammation and new bone formation (NBF). Macrophage migration inhibitory factor (MIF) was found to be a key driver of the pathogenesis of SpA by amplifying type 3 immunity, yet MIF-interacting molecules and networks remain elusive. Herein, we identified hypoxia-inducible factor-1 alpha (HIF1A) as an interacting partner ... Read more...

49. Comparison of Implant-Retained Overdenture and Conventional Complete Denture: A Survey Study to Measure Patients' Satisfaction and Quality of Life in Dental School Clinics

05-06-2024 - National Library of Medicine

Patient satisfaction and quality of life are integral to assessing oral health care quality. For many Americans still using conventional complete dentures (CDs) or implant-retained mandibular overdentures (IODs), it remains essential to consider improving their oral health outcomes and quality of life. Due to inexperienced student dentists providing dental care to dental school patients, ... Read more...

50. Ondansetron or beta-sitosterol antagonizes inflammatory responses in liver, kidney, lung and heart tissues of irradiated arthritic rats model

04-06-2024 - National Library of Medicine

CONCLUSION: The obtained data imply that BS or O improved the articular and EAM by regulating oxidative and inflammatory indices in arthritic and arthritic irradiated rats. Read more...

51. A microminipig model of DMD

04-06-2024 - National Library of Medicine

No abstract Read more...

52. Epidemiologic Trends of Cleft Lip and Palate in a Southern State: A 30-Year Follow-Up

03-06-2024 - National Library of Medicine

CONCLUSIONS: Results from this study suggest changing regional patterns of OFC in Mississippi. Although rates increased among non-White infants, the overall incidence of OFC has decreased compared with historical data. The findings may reflect actual incidence patterns in the state or the proximity of certain regions to Children's of Mississippi. Further study may reveal regional differences ... Read more...

53. Specific pelvic shape in patients with developmental dysplasia of the hip on 3D morphometric homologous model analysis

03-06-2024 - National Library of Medicine

CONCLUSION: The most important factor in the difference between normal and DDH pelvises was the change in the coxal angle in both the coronal and horizontal planes. That is, in the anterior and superior views, the normal pelvis is a triangle, whereas in DDH, it was more like a quadrilateral. Read more...

54. Time-domain diffuse optical imaging technique for monitoring rheumatoid arthritis disease activity: theoretical development and in silico validation

03-06-2024 - National Library of Medicine

Objective.Effective early treatment-within 3-5 months of disease onset-significantly improves rheumatoid arthritis (RA) prognosis. Nevertheless, 1 in 3 patients experiences treatment failure which takes 3-6 months to detect with current monitoring techniques. The aim of this work is to develop a method for extracting quantitative features from data obtained with time-domain diffuse optical ... Read more...

55. Time-domain diffuse optical imaging technique for monitoring rheumatoid arthritis disease activity: experimental validation in tissue-mimicking finger phantoms

03-06-2024 - National Library of Medicine

Objective.Effective treatment within 3-5 months of disease onset significantly improves rheumatoid arthritis (RA) prognosis. Nevertheless, 30% of RA patients fail their first treatment, and it takes 3-6 months to identify failure with current monitoring techniques. Time-domain diffuse optical imaging (TD-DOI) may be more sensitive to RA disease activity and could be used to detect treatment ... Read more...

56. Large stokes shift and near-infrared fluorescent probe for bioimaging and evaluating the HClO in an rheumatoid arthritis mouse model

01-06-2024 - National Library of Medicine

It is crucial to identify aberrant HClO levels in living things since they pose a major health risk and are a frequent reactive oxygen species (ROS) in living organisms. In order to detect HClO in various biological systems, we created and synthesized a near-infrared fluorescent probe with an oxime group (-C = N-OH) as a recognition unit. The probe DCMP1 has the advantages of fast response ... Read more...

57. Single-center pilot study of remote therapeutic monitoring in patients with operative spinal pathologies

31-05-2024 - National Library of Medicine

CONCLUSIONS: RTM offers continuous and objective data collection, presenting a potential solution to the limitations of intermittent clinical assessments and self-reported outcomes. The study demonstrated a moderate correlation between changes in activity levels and changes in PROs, suggesting that RTM data could serve as a surrogate for PROs. Participants' high compliance and satisfaction ... Read more...

58. Bilateral simultaneous hip and knee replacement: an epidemiological nationwide study from 2001 to 2016

31-05-2024 - National Library of Medicine

CONCLUSIONS: The burden of hip and knee osteoarthrosis as a leading cause of bilateral joint replacement is significant in Italy. The national registers' longitudinal analysis may provide data for establishing international guidelines regarding the appropriate indications for one stage bilateral simultaneous hip or knee replacement versus two stage. Read more...

59. Anti-inflammatory effect of a novel piperazino-enaminone delivered by liposomes in a mouse model of hemophilic arthropathy

31-05-2024 - National Library of Medicine

Hemophilic arthropathy (HA) is a condition caused by recurrent intra-articular bleeding in patients with hemophilia. Pro-inflammatory cytokines play a crucial role in the pathogenesis of HA. Our previous research demonstrated that a novel compound, piperazino-enaminone (JODI), effectively inhibited pro-inflammatory cytokines, including IL-6, MCP-1, MIP-1α, and MIP-1β, ... Read more...

60. IL-17A/IL-17RA interaction blockade sensitizes synovial macrophages to efferocytosis and PD-L1 signaling via rewiring STAT-3/ADAM17/MERTK axis in rheumatoid arthritis animal model

29-05-2024 - National Library of Medicine

Defective clearance of apoptotic cells due to impaired efferocytosis sustains error in self-tolerance that exacerbates rheumatoid arthritis (RA). However, the molecular determinant that directly or specifically impairs efferocytosis in RA is not yet studied. We identified a new perspective that IL-17A significantly impedes efferocytosis via preferential activation of the JAK/STAT-3/ADAM17 ... Read more...

61. A computational modelling tool for prediction of head reshaping following endoscopic strip craniectomy and helmet therapy for the treatment of scaphocephaly

28-05-2024 - National Library of Medicine

CONCLUSIONS: In conclusion, finite element models effectively predicted the ESCH cranial remodeling outcomes up to 8 months postoperatively. This computational tool offers valuable insights to guide and refine helmet treatment duration. This study also incorporated patient-specific material properties, enhancing the accuracy of the modeling approach. Read more...

62. The epidemiology of osteochondrosis in an insured Swedish dog population

25-05-2024 - National Library of Medicine

Osteochondrosis (OC) is a focal disturbance of endochondral ossification due to a failure of blood supply to the epiphyseal growth cartilage. In dogs, OC most commonly affects the shoulder joint, followed by the elbow, tarsal, and stifle joints. The condition is associated with clinical signs such as lameness and pain and the prognosis varies depending on the affected joint. Read more...

63. IL-27 promotes pathogenic T cells in a mouse model of Sjogren's disease

24-05-2024 - National Library of Medicine

Sjögren's disease (SjD) is a chronic autoimmune disease characterized by focal lymphocytic inflammation in lacrimal and salivary glands. We recently identified IL-27 as a requisite signal for the spontaneous SjD-like manifestations in nonobese diabetic (NOD) mice. Here, we define T cell-intrinsic effects of IL-27 in lacrimal gland disease in NOD mice. IL-27 receptor was required by both CD4 T ... Read more...

64. Myricetin reduces neutrophil extracellular trap release in a rat model of rheumatoid arthritis, which is associated with a decrease in disease severity

23-05-2024 - National Library of Medicine

Rheumatoid arthritis (RA) is a chronic disease characterized by joint inflammation and severe disability. However, there is a lack of safe and effective drugs for treating RA. In our previous study, we discovered that myricetin (MC) and celecoxib have a synergistic effect in the treatment of RA. We conducted in vitro and in vivo experiments to further investigate the effects and mechanisms of ... Read more...

65. Respiratory characterization of a humanized Duchenne muscular dystrophy mouse model

23-05-2024 - National Library of Medicine

Duchenne muscular dystrophy (DMD) is the most common X-linked disease. DMD is caused by a lack of dystrophin, a critical structural protein in striated muscle. Dystrophin deficiency leads to inflammation, fibrosis, and muscle atrophy. Boys with DMD have progressive muscle weakness within the diaphragm that results in respiratory failure in the 2nd or 3rd decade of life. Read more...

66. Anti-TNF Thioester Glucocorticoid Antibody-Drug Conjugate Fully Inhibits Inflammation with Minimal Effect on Systemic Corticosterone Levels in a Mouse Arthritis Model

23-05-2024 - National Library of Medicine

We describe the discovery of a thioester-containing glucocorticoid receptor modulator (GRM) payload and the corresponding antibody-drug conjugate (ADC). Payload 6 was designed for rapid hepatic inactivation to minimize systemic exposure of nonconjugated GRM. Mouse PK indicated that 6 is cleared 10-fold more rapidly than a first-generation GRM payload, resulting in 10-fold lower exposure and ... Read more...

67. Construction of multi-scale feature fusion segmentation model of MRI knee images based on dual attention mechanism weighted aggregation

17-05-2024 - National Library of Medicine

CONCLUSIONS: The model exhibited better stability and classification effect. Our results indicated that the Dual Attention and Multi-scale Feature Fusion Segmentation model can improve the segmentation effect of MRI knee images in mild and medium knee osteoarthritis, thereby offering an important clinical value and improving the accuracy of the clinical diagnosis. Read more...

68. Significant improvement of cardiac outflow tract septation defects in a DiGeorge syndrome model after minoxidil treatment

15-05-2024 - National Library of Medicine

The T-BOX transcription factor TBX1 is essential for the development of the pharyngeal apparatus and it is haploinsufficient in DiGeorge syndrome (DGS), a developmental anomaly associated with congenital heart disease and other abnormalities. The murine model recapitulates the heart phenotype and showed collagen accumulation. We first used a cellular model to study gene expression during ... Read more...

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