Outreach

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Literature Searching

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Critical Appraisal Training

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Books

Books can be searched for using SWIMS our online catalogue at www.swims.nhs.uk. Books and journals that are not available on site or electronically may be requested from other locations. Please email requests to: library@uhbristol.nhs.uk
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Table of Contents from
The Bone and Joint Journal (UK)
December 2014

If you require the full-text of any of the articles below then please email library@uhbristol.nhs.uk

Title: One step at a time
Citation: Bone & Joint Journal, December 2014, 96-B/12: 1573-1574
Author(s): Haddad, FS.
Abstract: Editorial

Title: ‘Big data’ reporting guidelines: how to answer big questions, yet avoid big problems
Citation: Bone & Joint Journal, December 2014, 96-B/12: 1575-1577
Author(s): Perry, DC., Parsons, N., Costs ML.
Abstract: The extent and depth of routine health care data are growing at an ever-increasing rate, forming huge repositories of information. These repositories can answer a vast array of questions. However, an understanding of the purpose of the dataset used and the quality of the data collected are paramount to determine the reliability of the result obtained. This Editorial describes the importance of adherence to sound methodological principles in the reporting and publication of research using ‘big’ data, with a suggested reporting framework for future Bone & Joint Journal submissions.

Title: The orthopaedic research scene and strategies to improve it
Citation: Bone & Joint Journal, December 2014, 96-B/12: 1578-1585
Author(s): Rankin, KS., Sprowson, AP., McNamara I., Akiyama, T.
Abstract: Trauma and orthopaedics is the largest of the surgical specialties and yet attracts a disproportionately small fraction of available national and international funding for health research. With the burden of musculoskeletal disease increasing, high-quality research is required to improve the evidence base for orthopaedic practice. Using the current research landscape in the United Kingdom as an example, but also addressing the international perspective, we highlight the issues surrounding poor levels of research funding in trauma and orthopaedics and indicate avenues for improving the impact and success of surgical musculoskeletal research.

Title: The role of femoral neck anteversion in the development of osteoarthritis in dysplastic hips
Citation: Bone & Joint Journal, December 2014, 96-B/12: 1586-1593
Author(s): Li, H., Wang, Y., Oni, JK., Qu, X., Li, T., Zeng, Y., Liu, F., Zhu, Z.
Abstract: There have been several studies examining the association between the morphological characteristics seen in acetabular dysplasia and the incidence of the osteoarthritis (OA). However, most studies focus mainly on acetabular morphological
analysis, and few studies have scrutinised the effect of femoral morphology. In this study we enrolled 36 patients with bilateral acetabular dysplasia and early or mid-stage OA in one hip and no OA in the contralateral hip.

Title: Prevalence of a soft-tissue lesion after small head metal-on-metal total hip replacement: 13- to 19-year follow-up study
Citation: Bone & Joint Journal, December 2014, 96-B/12: 1594-1599
Author(s): Hwang, KT., Kim, YH., Kim, YS., Ryu, JA.
Abstract: We investigated the incidence of soft-tissue lesions after small head metal-on-metal total hip replacement (MoM THR). Between December 1993 and May 1999, 149 patients (195 hips) underwent primary cementless MoM THR. During the follow-up period, three patients (five THRs) died and eight patients (14 THRs) were lost to follow-up. We requested that all patients undergo CT evaluation. After exclusion of five patients (six THRs) who had undergone a revision procedure, and 22 (28 THRs) who were unwilling to take part in this study, 111 patients (142 THRs) were evaluated.

Title: Predictors of time to revision and clinical outcomes following revision of metal-on-metal hip replacements for adverse reaction to metal debris
Citation: Bone & Joint Journal, December 2014, 96-B/12: 1600-1609
Author(s): Matharu, GS., Pynsent, PB., Sumathi, VP., Mittal, S., Buckley, CD.
Abstract: We undertook a retrospective cohort study to determine clinical outcomes following the revision of metal-on-metal (MoM) hip replacements for adverse reaction to metal debris (ARMD), and to identify predictors of time to revision and outcomes following revision. Between 1998 and 2012 a total of 64 MoM hips (mean age at revision of 57.8 years; 46 (72%) female; 46 (72%) hip resurfacings and 18 (28%) total hip replacements) were revised for ARMD at one specialist centre.

Title: Adverse reaction to metal debris is more common in patients following MoM total hip replacement with a 36 mm femoral head than previously thought: Results from a modern MoM follow-up programme
Citation: Bone & Joint Journal, December 2014, 96-B/12: 1610-1617
Author(s): Lainiala, O., Eskelinen, A., Elo, P., Puolakka, T.
Abstract: We conducted a retrospective study to assess the prevalence of adverse reactions to metal debris (ARMD) in patients operated on at our institution with metal-on-metal (MoM) total hip replacements with 36 mm heads using a Pinnacle acetabular shell. A total of 326 patients (150 males, 175 hips; 176 females, 203 hips) with a mean age of 62.7 years (28 to 85) and mean follow-up of 7.5 years (0.1 to 10.8) participating in our in-depth modern MoM follow-up programme were included in the study, which involved recording whole blood cobalt and chromium ion measurements, Oxford hip scores (OHS) and plain radiographs of the hip and targeted cross-sectional imaging.

Title: Significant muscle damage after multiple revision total hip replacements through the direct lateral approach
Citation: Bone & Joint Journal, December 2014, 96-B/12: 1618-1622
Author(s): von Roth, P., Abdel, MP., Wauer, F., Winkler, T., Wassilew, G.
Abstract: Intact abductors of the hip play a crucial role in preventing limping and are known to be damaged through the direct lateral approach. The extent of trauma to the abductors after revision total hip replacement (THR) is unknown. The aim of this prospective study was to compare the pre- and post-operative status of the gluteus medius muscle after revision THR. We prospectively compared changes in the muscle and limping in 30 patients who were awaiting aseptic revision THR and 15 patients undergoing primary THR.
Title: The shape of the distal femur: a geometrical study using MRI
Citation: Bone & Joint Journal, December 2014, 96-B/12: 1623-1630
Author(s): Monk, AP., Choji, K., O’Connor, JJ., Goodfellow, JW., Murray, DW.
Abstract: We scanned 25 left knees in healthy human subjects using MRI. Multiplanar reconstruction software was used to take measurements of the inferior and posterior facets of the femoral condyles and the trochlea. A ‘basic circle’ can be defined which, in the sagittal plane, fits the posterior and inferior facets of the lateral condyle, the posterior facet of the medial condyle and the floor of the groove of the trochlea. It also approximately fits both condyles in the coronal plane (inferior facets) and the axial plane (posterior facets). The circle fitting the inferior facet of the medial condyle in the sagittal plane was consistently 35% larger than the other circles and was termed the ‘medial inferior circle’. There were strong correlations between the radii of the circles, the relative positions of the centres of the condyles, the width of the condyles, the total knee width and skeletal measurements including height.

Title: The usefulness of MRI and arthroscopy in the diagnosis and treatment of soft-tissue injuries associated with split-depression fractures of the lateral tibial condyle
Citation: Bone & Joint Journal, December 2014, 96-B/12: 1631-1636
Author(s): Parkkinen, M., Madanat, R., Makinen, TJ., Mustonen, A.
Abstract: The role of arthroscopy in the treatment of soft-tissue injuries associated with proximal tibial fractures remains debatable. Our hypothesis was that MRI over-diagnoses clinically relevant associated soft-tissue injuries. This prospective study involved 50 consecutive patients who underwent surgical treatment for a split-depression fracture of the lateral tibial condyle (AO/OTA type B3.1).

Title: The influence of diabetes mellitus on the post-operative outcome of elective primary total knee replacement: a systematic review and meta-analysis
Citation: Bone & Joint Journal, December 2014, 96-B/12: 1637-1643
Author(s): Yang, Z., Liu, H., Xie, X., Tan, Z., Qin, T., Kang, P.
Abstract: Total knee replacement (TKR) is an effective method of treating end-stage arthritis of the knee. It is not, however, a procedure without risk due to a number of factors, one of which is diabetes mellitus. The purpose of this study was to estimate the general prevalence of diabetes in patients about to undergo primary TKR and to determine whether diabetes mellitus adversely affects the outcome. We conducted a systematic review and meta-analysis according to the Meta-analysis Of Observational Studies in Epidemiology (MOOSE) guidelines.

Title: Stepwise surgical correction of instability in flexion after total knee replacement
Citation: Bone & Joint Journal, December 2014, 96-B/12: 1644-1648
Author(s): Abdel, MP., Pulido, L., Severson, EP., Hanssen, AD.
Abstract: Instability in flexion after total knee replacement (TKR) typically occurs as a result of mismatched flexion and extension gaps. The goals of this study were to identify factors leading to instability in flexion, the degree of correction, determined radiologically, required at revision surgery, and the subsequent clinical outcomes. Between 2000 and 2010, 60 TKRs in 60 patients underwent revision for instability in flexion associated with well-fixed components. There were 33 women (55%) and 27 men (45%); their mean age was 65 years (43 to 82). Radiological measurements and the Knee Society score (KSS) were used to assess outcome after revision surgery.

Title: Re-admissions, re-operations and length of stay in hospital after aseptic revision knee replacement in Denmark: a two-year nationwide study
Citation: Bone & Joint Journal, December 2014, 96-B/12: 1649-1656
**Author(s):** Lindberg-Larsen, M., Jorgensen, CC., Baek Hansen, T., Solgaard, S.

**Abstract:** We present detailed information about early morbidity after aseptic revision knee replacement from a nationwide study. All aseptic revision knee replacements undertaken between 1st October 2009 and 30th September 2011 were analysed using the Danish National Patient Registry with additional information from the Danish Knee Arthroplasty Registry. The 1218 revisions involving 1165 patients were subdivided into total revisions, large partial revisions, partial revisions and revisions of unicompartmental replacements (UKR revisions).

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**Title:** Increased risk of failure following revision total knee replacement in patients aged 55 years and younger

**Citation:** Bone & Joint Journal, December 2014, 96-B/12: 1657-1662

**Author(s):** Stambough, JB., Clohisy, JC., Barrack, RL., Nunley, RM., Keeney, JA.

**Abstract:** The aims of this retrospective study were to compare the mid-term outcomes following revision total knee replacement (TKR) in 76 patients (81 knees) < 55 years of age with those of a matched group of primary TKRs based on age, BMI, gender and comorbid conditions. We report the activity levels, functional scores, rates of revision and complications.

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**Title:** Return to theatre for elective hip and knee replacements: what is the relative importance of patient factors, surgeon and hospital?

**Citation:** Bone & Joint Journal, December 2014, 96-B/12: 1663-1668

**Author(s):** Bottle, A., Aylin, P., Loeffler, M.

**Abstract:** The aim of this study was to define return to theatre (RTT) rates for elective hip and knee replacement (HR and KR), to describe the predictors and to show the variations in risk-adjusted rates by surgical team and hospital using national English hospital administrative data. We examined information on 260 206 HRs and 315 249 KRs undertaken between April 2007 and March 2012. The 90-day RTT rates were 2.1% for HR and 1.8% for KR. Male gender, obesity, diabetes and several other comorbidities were associated with higher odds for both index procedures.

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**Title:** Field testing the Unified Classification System for periprosthetic fractures of the femur, tibia and patella in association with knee replacement: an international collaboration

**Citation:** Bone & Joint Journal, December 2014, 96-B/12: 1669-1673

**Author(s):** Van der Merwe, JM., Haddad, FS., Duncan CP.

**Abstract:** The Unified Classification System (UCS) was introduced because of a growing need to have a standardised universal classification system of periprosthetic fractures. It combines and simplifies many existing classification systems, and can be applied to any fracture around any partial or total joint replacement occurring during or after operation. Our goal was to assess the inter- and intra-observer reliability of the UCS in association with knee replacement when classifying fractures affecting one or more of the femur, tibia or patella.

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**Title:** The impact of diabetes on the short- to mid-term outcome of total ankle replacement

**Citation:** Bone & Joint Journal, December 2014, 96-B/12: 1674-1680

**Author(s):** Choi, WJ., Lee, JS., Lee, M., Park, JH., Lee, JW.

**Abstract:** We compared the clinical and radiographic results of total ankle replacement (TAR) performed in non-diabetic and diabetic patients. We identified 173 patients who underwent unilateral TAR between 2004 and 2011 with a minimum of two years’ follow-up. There were 88 male (50.9%) and 85 female (49.1%) patients with a mean age of 66 years (SD 7.9, 43 to 84). There were 43 diabetic patients, including 25 with controlled diabetes and 18 with uncontrolled diabetes, and 130 non-diabetic patients. The clinical data which were analysed included the Ankle Osteoarthritis Scale (AOS) and the American Orthopaedic Foot and Ankle
Society (AOFAS) scores, as well the incidence of peri-operative complications.

**Title:** Heterotopic ossification after surgery for distal humeral fractures  
**Citation:** Bone & Joint Journal, December 2014, 96-B/12: 1681-1687  
**Author(s):** Foruria, AM., Lawrence, TM., Augustin, S., Morrey, BF.  
**Abstract:** We retrospectively reviewed 89 consecutive patients (45 men and 44 women) with a mean age at the time of injury of 58 years (18 to 97) who had undergone external fixation after sustaining a unilateral fracture of the distal humerus. Our objectives were to determine the incidence of heterotopic ossification (HO); identify risk factors associated with the development of HO; and characterise the location, severity and resultant functional impairment attributable to the presence of HO.

**Title:** Evaluation of the Instability Severity Index Score and the Western Ontario Shoulder Instability Index as predictors of failure following arthroscopic Bankart repair  
**Citation:** Bone & Joint Journal, December 2014, 96-B/12: 1688-1692  
**Author(s):** Bouliane, M., Saliken, D., Bequpre, LA., Silveira, A.  
**Abstract:** In this study we evaluated whether the Instability Severity Index Score (ISIS) and the Western Ontario Shoulder Instability Index (WOSI) could detect those patients at risk of failure following arthroscopic Bankart repair. Between April 2008 and June 2010, the ISIS and WOSI were recorded pre-operatively in 110 patients (87 male, 79%) with a mean age of 25.1 years (16 to 61) who underwent this procedure for recurrent anterior glenohumeral instability. A telephone interview was performed two-years post-operatively to determine whether patients had experienced a recurrent dislocation and whether they had returned to pre-injury activity levels.

**Title:** Patient-reported outcome and quality of life after total en bloc spondylectomy for a primary spinal tumour  
**Citation:** Bone & Joint Journal, December 2014, 96-B/12: 1693-1698  
**Author(s):** Kato, S., Murakami, H., Demura, S., Yoshioka, K.  
**Abstract:** Total en bloc spondylectomy (TES) is the total resection of a vertebra containing a tumour. Many authors have investigated patient-reported outcomes after routine spinal surgery and surgery for tumours in general. However, this is the first report of patient-reported outcomes, including health-related quality of life (HRQoL) and satisfaction, after en bloc vertebral resection for a spinal tumour. Of the 54 patients who underwent TES for a primary tumour between 1993 and 2010, 19 died and four were lost to follow-up. In January 2012, a questionnaire was sent to the 31 surviving patients.

**Title:** Removal of the syndesmotic screw after the surgical treatment of a fracture of the ankle in adult patients does not affect one-year outcomes: a randomised controlled trial  
**Citation:** Bone & Joint Journal, December 2014, 96-B/12: 1699-1705  
**Author(s):** Boyle, MJ., Gao, R., Frampton, CM., Coleman, B.  
**Abstract:** Our aim was to compare the one-year post-operative outcomes following retention or removal of syndesmotic screws in adult patients with a fracture of the ankle that was treated surgically. A total of 51 patients (35 males, 16 females), with a mean age of 33.5 years (16 to 62), undergoing fibular osteosynthesis and syndesmotic screw fixation, were randomly allocated to retention of the syndesmotic screw or removal at three months post-operatively.

**Title:** Clinical outcome of pedestal cup endoprosthetic reconstruction after resection of a peri-acetabular tumour
Citation: Bone & Joint Journal, December 2014, 96-B/12: 1706-1712
Author(s): Bus, MP., Boerhout, EJ., Bramer, JA., Dijkstra, PD.
Abstract: Peri-acetabular tumour resections and their subsequent reconstruction are among the most challenging procedures in orthopaedic oncology. Despite the fact that a number of different pelvic endoprostheses have been introduced, rates of complication remain high and long-term results are mostly lacking. In this retrospective study, we aimed to evaluate the outcome of reconstructing a peri-acetabular defect with a pedestal cup endoprosthesis after a type 2 or type 2/3 internal hemipelvectomy.

Title: Exam Corner – December 2014
Citation: Bone & Joint Journal, December 2014, 96-B/12: 1715-1716
Author(s): Khanduja, V.
Abstract: The FRCS (Tr & Orth) examination has three components: MCQs, Vivas and Clinical Examination. The Vivas are further divided into four sections comprising Basic Science, Adult Pathology, Hands and Children’s Orthopaedics and Trauma. The Clinical Examination section is divided into Upper and Lower limb cases. The aim of this section in the Journal is to focus specifically on the trainees preparing for the exam and to cater to all the sections of the exam. The vision is to complete the cycle of all relevant exam topics (as per the syllabus) in four years.

Table of Contents from Osteoporosis International December 2014

If you require the full-text of any of the articles below then please email library@uhbristol.nhs.uk

Title: Vitamin D and skeletal health in infancy and childhood
Citation: Osteoporosis International, December 2014, 25(12): 2673-2684
Author(s): Moon, RJ., Harvey, NC., Cooper, C.
Abstract: During growth, severe vitamin D deficiency in childhood can result in symptomatic hypocalcaemia and rickets. Despite the suggestion from some studies of a secular increase in the incidence of rickets, this observation may be driven more by changes in population demographics than a true alteration to age, sex and ethnicity-specific incidence rates; indeed, rickets remains uncommon overall and is rarely seen in fair-skinned children. Additionally, the impact of less severe vitamin D deficiency and insufficiency has received much interest in recent years, and in this review, we consider the evidence relating vitamin D status to fracture risk and bone mineral density (BMD) in childhood and adolescence.

Title: Osteocyte control of bone remodeling: is sclerostin a key molecular coordinator of the balanced bone resorption-formation cycles?
Citation: Osteoporosis International, December 2014, 25(12): 2685-700
Author(s): Sapir-Koren, R., Livshits, G.
Abstract: Osteocytes, entrapped within a newly mineralized bone matrix, possess a unique cellular identity due to a specialized morphology and a molecular signature. These features endow them to serve as a bone response mechanism for mechanical stress in their microenvironment. Sclerostin, a primarily osteocyte product, is widely considered as a mechanotransduction key molecule whose expression is suppressed by mechanical loading, or it is induced by unloading. This review presents a model suggesting that sclerostin is major mediator for integrating mechanical, local, and hormonal signals, sensed by the osteocytes, in controlling the remodeling apparatus.

Title: Cost-effectiveness of training rural providers to identify and treat patients at risk for fragility fractures
Citation: Osteoporosis International, December 2014, 25(12): 2701-7
Author(s): Nelson, SD., Nelson, RE., Cannon, GW., Lawrence, P.
Abstract: This is a cost-effectiveness analysis of training rural providers to identify and treat osteoporosis. Results showed a slight cost savings, increase in life years, increase in treatment rates, and decrease in fracture incidence. However, the results were sensitive to small differences in effectiveness, being cost-effective in 70 % of simulations during probabilistic sensitivity analysis.INTRODUCTION: We evaluated the cost-effectiveness of training rural providers to identify and treat veterans at risk for fragility fractures relative to referring these patients to an urban medical center for specialist care. The model evaluated the impact of training on patient life years, quality-adjusted life years (QALYs), treatment rates, fracture incidence, and costs from the perspective of the Department of Veterans Affairs.

Title: Bone quality of the newest bone formed after two years of teriparatide therapy in patients who were previously treatment-naive or on long-term alendronate therapy
Citation: Osteoporosis International, December 2014, 25(12): 2709-19
Author(s): Hofstetter, B., Gamsjaeger, S., Varga, F., Dobnig, H., Stepan, JJ.
Abstract: The results of the present study, involving analysis of biopsies from patients who received teriparatide for 2 years and were previously either treatment-naive or on long-term alendronate therapy, suggest that prior alendronate use does not blunt the favorable effects of teriparatide on bone quality.INTRODUCTION: Examine the effect of 2 years of teriparatide (TPTD) treatment on mineral and organic matrix properties of the newest formed bone in patients who were previously treatment-naive (TN) or on long-term alendronate (ALN) therapy.

Title: Differences in persistency with teriparatide in patients with osteoporosis according to gender and health care provider
Citation: Osteoporosis International, December 2014, 25(12): 2721-8
Author(s): Kyvernitakis, I., Kostev, K., Kurth, A., Albert, US., Hadji, P.
Abstract: This analysis investigated the persistence of teriparatide for treatment of osteoporosis in 829 patients according to gender and health care provider treated with teriparatide. This study showed that female patients were less persistent than males and those patients treated in the practices of orthopedic surgeons were more treatment persistent than patients treated in general practitioner (GP) practices.

Title: Comparison of the effects of three oral bisphosphonate therapies on the peripheral skeleton in postmenopausal osteoporosis: the TRIO study
Citation: Osteoporosis International, December 2014, 25(12): 2729-741
Author(s): Paggiosi, MA., Peel, N., McCloskey, E., Walsh, JS., Eastell, R.
Abstract: We compared the effects of oral alendronate, ibandronate and risedronate on the central and peripheral skeleton over 2 years. We report differences in effect on the central skeleton but not on the peripheral skeleton. Greater effects were observed for ibandronate (and alendronate) than risedronate at the spine but not the hip.

Title: Estrogen alone or in combination with parathyroid hormone can decrease vertebral MEF2 and sclerostin expression and increase vertebral bone mass in ovariectomized rats
Citation: Osteoporosis International, December 2014, 25(12): 2743-54
Author(s): Jia, HB., Ma, JX., Ma, XL., Yu, JT., Feng, R., Xu, LY., Wang, J., Xing, D.
Abstract: The study is about the regulatory effects of estrogen and parathyroid hormone (PTH) on sclerostin, a protein that inhibits the Wnt/beta-catenin pathway. The results indicate that estrogen may down-regulate sclerostin expression and that estrogen displays synergistic action with PTH. These results provide a new perspective on the relationship between estrogen and bone.PURPOSE: To investigate whether estrogen can down-regulate SOST and MEF2 (myocyte enhancer factor 2) expression and whether co-treatment with estrogen and PTH has a stronger effect on suppressing SOST than PTH applied alone in ovariectomized rats.

Title: Comparison of the effect of 18-month daily teriparatide administration on patients with rheumatoid arthritis and postmenopausal osteoporosis patients
Citation: Osteoporosis International, December 2014, 25(12): 2755-65
Author(s): Ebina, K., Hashimoto, J., Shi, K., Kashii, M., Hirao, M., Yoshikawa, H.
Abstract: Patients with rheumatoid arthritis showed greater response to 18-month administration of daily teriparatide especially in the increase of bone formation markers at 1 month and femoral neck bone mineral density at 18 months compared to postmenopausal osteoporosis patients.

Title: Vitamin D insufficiency over 5 years is associated with increased fracture risk-an observational cohort study of elderly women
Citation: Osteoporosis International, December 2014, 25(12): 2767-75
Author(s): Buchebner, D., McGuigan, F., Gerdhem, P., Malm, J.
Abstract: This study of elderly Swedish women investigated the association between chronic vitamin D insufficiency and osteoporotic fractures occurring between ages 80-90. The incidence and risk of hip and major osteoporotic fractures was significantly higher in elderly women with low vitamin D levels maintained over 5 years.

Title: Post-fracture pharmacotherapy for women with osteoporotic fracture: analysis of a managed care population in the USA
Citation: Osteoporosis International, December 2014, 25(12): 2777-86
Author(s): Wilk, A., Sajjan, S., Modi, A., Fan, CP., Mavros, P.
Abstract: Pharmacologic therapy is recommended to reduce future fracture risk. We examined osteoporosis medications dispensed to older women after first fracture. Only 23 % received therapy during the first year post-fracture. Prior osteoporosis therapy, a prior osteoporosis diagnosis, and older age were good predictors of post-fracture osteoporosis therapy.

Title: A trabecular plate-like phenotype is overrepresented in Chinese-American versus Caucasian women
Citation: Osteoporosis International, December 2014, 25(12): 2787-95
Author(s): Walker, MD., Shi, S., Russo, JJ., Liu, XS., Zhou, B., Zhang, C., Liu, G.
Abstract: This study used extreme phenotype selection to define two trabecular bone phenotypes in a cohort of Chinese-American and Caucasian women. A trabecular plate-predominant phenotype is more common in Chinese-Americans while the rod-predominant phenotype is more typical of Caucasians. The robustness of these phenotypic associations with respect to lifestyle factors suggests that this trait may have a genetic basis and that these phenotypes can be utilized in future genetic studies.

Title: Associations of polymorphisms in the SOST gene and bone mineral density in postmenopausal Chinese Women
Citation: Osteoporosis International, December 2014, 25(12): 2797-803
Author(s): Zhang, H., He, JW., Wang, C., Zhang, Z., Yue, H., Hu, WW.
Abstract: The bone mineral density (BMD) of a total of 1,379 healthy postmenopausal Chinese women was measured. Ten tagging SNPs of the sclerostin (SOST) gene were genotyped. Our results suggest that the polymorphisms of the rs2023794 and rs74252774 in the SOST gene were associated with BMD of the lumbar spine in postmenopausal Chinese women.

Title: Incidence and risk factors for osteoporotic vertebral fracture in low-income community-dwelling elderly: a population-based prospective cohort study in Brazil. The Sao Paulo Ageing & Health (SPAH) Study
Citation: Osteoporosis International, December 2014, 25(12): 2805-15
Author(s): Domiciano, DS., Machado, LG., Lopes, JB., Figueiredo, CP., Caparbo, VF.
Abstract: We ascertained the incidence and predictors of radiographic vertebral fracture in a Brazilian elderly cohort, since no data in this field have been reported in low-income countries. This is the first population-based study to demonstrate the high frequency of vertebral fracture in elderly Latin Americans. Age, prior fracture, BMD, and bone turnover were predictors of fracture.

Title: Does diabetes modify the effect of FRAX risk factors for predicting major osteoporotic and hip fracture?
Citation: Osteoporosis International, December 2014, 25(12): 2817-24
Author(s): Leslie, WD., Morin, SN., Lix, LM., Majumdar, SR.
Abstract: In an observational study population of 62,413 individuals (6,455 [10 %] with diabetes), diabetes was independently associated with major osteoporotic fractures (MOFs) but did not significantly modify the effect of FRAX(TM) risk factors or prior fracture site. However, the presence of diabetes exerted a much stronger effect on hip fracture risk in younger versus older individuals.

Title: A Frailty Index predicts 10-year fracture risk in adults age 25 years and older: results from the Canadian Multicentre Osteoporosis Study (CaMos)
Citation: Osteoporosis International, December 2014, 25(12): 2825-32
Author(s): Kennedy, CC., Ioannidis, G., Rockwood, K., Thabane, L., Adachi, JD.
Abstract: We created a 30-item Frailty Index in the Canadian Multicentre Osteoporosis Study. A Frailty Index is a sensitive measure that can quantify fracture risk according to degree of frailty. Our results indicated that at any age, frailty was an important independent risk factor for fracture over 10 years.

Title: Association of stressful life events with accelerated bone loss in older men: the osteoporotic fractures in men (MrOS) study
Citation: Osteoporosis International, December 2014, 25(12): 2833-9
Author(s): Fink, HA., Kuskowski, MA., Cauley, JA., Taylor, BC., Schousboe, JT.

Abstract: Prior studies suggest an association between stressful life events and fractures that may be mediated by BMD. In the current study, risk of accelerated hip BMD loss was higher in older men with any type of stressful life event and increased with the number of types of stressful life events.

New from NICE

NICE are currently undertaking a Technology Appraisal of Osteoporosis (prevention) – bishosphonates (inc part rev TA160, TA161) [ID782] which is due to be published in November 2015.

Latest relevant Systematic Reviews from the Cochrane Library

Osteotomy for treating knee osteoarthritis

Reinoud W Brouwer, Maarten R Huizinga, Tijs Duivenvoorden, Tom M van Raaij, Arianne P Verhagen, Sita MA Bierma-Zeinstra and Jan AN Verhaar

Online Publication Date: December 2014

NHS Behind the Headlines

Text alerts 'help prompt people to take their pills' Monday Dec 8 2014

New activity in Uptodate/DynaMed

Overview of the management of osteoporosis in postmenopausal women updated Nov 2014

Acupuncture might improve pain, mobility, and health-related quality of life in adults with osteoarthritis updated Dec 2014
Title: A biomechanical comparison of composite femurs and cadaver femurs used in experiments on operated hip fractures
Citation: Journal of Biomechanics, December 2014, 47(16): 3898-3902
Author(s): Basso T., Klaksvik J., Syversen U., Foss O.A.
Abstract: Fourth generation composite femurs (4GCFs, models #3406 and #3403) simulate femurs of males <80 years with good bone quality. Since most hip fractures occur in old women with fragile bones, concern is raised regarding the use of standard 4GCFs in biomechanical experiments. In this study the stability of hip fracture fixations in 4GCFs was compared to human cadaver femurs (HCFs) selected to represent patients with hip fractures.

Title: A joined role of canopy and reversal cells in bone remodeling - Lessons from glucocorticoid-induced osteoporosis
Citation: Bone, December 2014, 73: 16-23
Author(s): Jensen P.R., Andersen T.L., Hauge E.-M., Bollerslev J., Delaisse J.-M.
Abstract: Successful bone remodeling demands that osteoblasts restitute the bone removed by osteoclasts. In human cancellous bone, a pivotal role in this restitution is played by the canopies covering the bone remodeling surfaces, since disruption of canopies in multiple myeloma, postmenopausal- and glucocorticoid-induced osteoporosis is associated with the absence of progression of the remodeling cycle to bone formation, i.e. uncoupling. An emerging concept explaining this critical role of canopies is that they represent a reservoir of osteoprogenitors to be delivered to reversal surfaces. In postmenopausal osteoporosis, this concept is supported by the coincidence between the absence of canopies and scarcity of cells on reversal surfaces together with abortion of the remodeling cycle. Here we tested whether this concept holds true in glucocorticoid-induced osteoporosis.

Title: A new future for hip fracture care - orthogeriatrician lead in an 'Acute' Hip Unit
Citation: Clinical Medicine, Journal of the Royal College of Physicians of London, December 2014, 14(6): 591-596
Author(s): Gupta A.
Abstract: Although surgery is the definitive treatment for almost all hip fractures, there is evidence that outcomes such as morbidity and mortality are not determined by the type of surgery but by comorbidities and postoperative complications. A team approach, especially the involvement of an orthogeriatrician in managing medical issues, has been shown to improve surgical outcomes and should be encouraged in hospitals worldwide. An Acute Hip Unit is able to address the complex challenging needs of a frail older high-risk population soon after admission, therefore minimising delays. An orthogeriatrician-led unit can deal with the preoperative and complex postoperative medical, social, ethical, physical, and mental health issues that are associated with 'hip fracture syndrome', providing structured standardised evidence-based care by trained staff. This could be the model of care for the future.

Title: A randomized trial comparing balloon kyphoplasty and vertebroplasty for vertebral compression fractures due to osteoporosis
Citation: American Journal of Neuroradiology, December 2014, 35(12): 2227-2236
**Title:** A reference case for economic evaluations in osteoarthritis: An expert consensus article from the European Society for Clinical and Economic Aspects of Osteoporosis and Osteoarthritis (ESCEO).

**Citation:** Seminars in Arthritis & Rheumatism, 01 December 2014, 44(3): 271-282

**Author(s):** Hiligsmann, Mickaël, Cooper, Cyrus, Guillemin, Francis, Hochberg, Marc C., Tugwell, Peter, Arden, Nigel, Berenbaum, Francis, Boers, Maarten, Boonen, Annelies

**Abstract:** Background General recommendations for a reference case for economic studies in rheumatic diseases were published in 2002 in an initiative to improve the comparability of cost-effectiveness studies in the field. Since then, economic evaluations in osteoarthritis (OA) continue to show considerable heterogeneity in methodological approach. Objectives To develop a reference case specific for economic studies in OA, including the standard optimal care, with which to judge new pharmacologic and non-pharmacologic interventions.

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**Title:** A study of the prevalence of osteoporosis and hypovitaminosis D in patients with primary knee osteoarthritis

**Citation:** Journal of Clinical Orthopaedics and Trauma, December 2014, 5(4): 199-202

**Author(s):** Ghosh B., Pal T., Ganguly S., Ghosh A.

**Abstract:** Introduction: Osteoarthritis and Osteoporosis are highly prevalent disease, so is hypovitaminosis D. We tried to find out prevalence of osteoporosis and hypovitaminosis D in patients suffering from primary knee Osteoarthritis. We also compared the prevalence of osteoporosis between general population and patients of primary osteoarthritis.

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**Title:** Accuracy of the lesser trochanter for guiding lag screw insertion in hip fracture management

**Citation:** Orthopedics, December 2014, 37(12): e1080-e1084

**Author(s):** Xiao J., Gao Z., Qin Y., Li X., Wang A., Zhu L., Wang J.

**Abstract:** The goal of this study was to evaluate the accuracy of the lesser trochanter for entry of lag screw placement in the fixation of hip fractures. Radiographs of the pelvis with both hips in 50 Chinese patients were analyzed to determine the accuracy of using the lesser trochanter as a reference landmark for inserting lag screws.

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**Title:** Acetabular fractures converted to total hip arthroplasties in the elderly: How does function compare to primary total hip arthroplasty?

**Citation:** Journal of Orthopaedic Trauma, December 2014, 28(12): 694-699

**Author(s):** Schnaser E., Scarcella N.R., Vallier H.A.

**Abstract:** Objectives: Little data exist regarding the outcomes of total hip arthroplasty (THA) after acetabular fracture treatment failure. We hypothesize that these patients achieve a lower level of function than those who undergo primary THA for osteoarthritis (atraumatic). Design: Retrospective review. Control group consisted of sequential patients who underwent a primary THA for osteoarthritis and were 60 years or older at the time of surgery. Setting: Level I Academic Trauma Center. Patients: One hundred seventy-one patients older than 60 years when they sustained an
acetabular fracture were included in this study. Seventeen (10%) patients were converted to THA. Control patients were treated with primary THA for osteoarthritis.

**Title:** An algorithm recommendation for the management of knee osteoarthritis in Europe and internationally: A report from a task force of the European Society for Clinical and Economic Aspects of Osteoporosis and Osteoarthritis (ESCEO).

**Citation:** Seminars in Arthritis & Rheumatism, 01 December 2014, 44(3): 253-263

**Author(s):** Bruyère, Olivier, Cooper, Cyrus, Pelletier, Jean-Pierre, Branco, Jaime, Luisa Brandi, Maria, Guillemin, Francis, Hochberg, Marc C., Kanis, John A., Kvien, Tore K.

**Abstract:** Objectives Existing practice guidelines for osteoarthritis (OA) analyze the evidence behind each proposed treatment but do not prioritize the interventions in a given sequence. The objective was to develop a treatment algorithm recommendation that is easier to interpret for the prescribing physician based on the available evidence and that is applicable in Europe and internationally. The knee was used as the model OA joint.

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**Title:** Association between global biomarkers of oxidative stress and hip fracture in postmenopausal women: A prospective study

**Citation:** Journal of Bone and Mineral Research, December 2014, 29(12): 2577-2583

**Author(s):** Yang S., Feskanich D., Willett W.C., Eliassen A.H., Wu T.

**Abstract:** Human studies suggest that oxidative stress is a risk factor for osteoporosis, but its relationship with fracture risk is poorly understood. The purpose of the present study was to investigate the association between biomarkers of oxidative stress and hip fracture in postmenopausal women. We conducted a prospective study in the Nurses' Health Study among 996 women aged 60 years or older at baseline blood collection in 1989-1990.

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**Title:** 'Balancing risk' after fall-induced hip fracture: the older person’s need for information.

**Citation:** International Journal of Older People Nursing, December 2014, 9(4): 249-257

**Author(s):** McMillan, Laura, Booth, Joanne, Currie, Kay, Howe, Tracey

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**Title:** Bi-directionally selective bone targeting delivery for anabolic and antiresorptive drugs: A novel combined therapy for osteoporosis?

**Citation:** Medical Hypotheses, December 2014, 83(6): 694-696

**Author(s):** Liu J., Zhang H., Dong Y., Jin Y., Hu X., Cai K., Ma J., Wu G.

**Abstract:** Osteoporosis is a progressive systemic skeletal disease, in which the equilibrium of bone resorption and bone formation is disturbed. The drugs for osteoporosis can be divided into two categories according to their predominant effects: antiresorptive drugs and anabolic drugs. Antiresorptive drugs are designed to inhibit bone resorption and anabolic drugs are aiming to stimulate bone formation. On the other hand, most antiresorptive drugs usually decrease anabolic activities and reduce bone formation, while anabolic drugs can unintentionally increase bone resorption. Furthermore, both types of drugs show no preferential distribution in bone and can locate generally in the areas of both bone formation and bone resorption.

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**Title:** Calcium and vitamin D supplementation on bone health: Current evidence and recommendations

**Citation:** International Journal of Gerontology, December 2014, 8(4): 183-188

**Author(s):** Chen L.-R., Wen Y.-T., Kuo C.-L., Chen K.-H.

**Abstract:** Population aging and osteoporosis are global public health challenges. Osteoporosis markedly increases the risk of fractures, and further morbidity and mortality. Calcium is a major constituent of the bone and vitamin D helps maintain calcium homeostasis. Calcium and vitamin D supplements have long been recognized as the cornerstones for prevention and management of osteoporosis and fractures. Although the associations between calcium and vitamin D
supplementation and bone mineral density, fracture prevention, and potential adverse outcomes from available evidence are inconsistent, the Institute of Medicine Committee and the American Geriatrics Society support a key role of calcium and vitamin D in skeletal health. There is insufficient evidence to conclude that calcium with or without vitamin D supplementation increases the risk of cardiovascular events and cancer. Older adults should obtain at least 1000 IU/day of vitamin D with 1000-1200 mg/day of calcium to reduce the risk of fractures. The actual supplementation levels of calcium and vitamin D should be advised individually to specific patient or situation.

Title: Causes of failure in periprosthetic fractures of the hip at 1- to 14-year follow-up
Citation: Injury, December 2014, 45(S6): S85-S92
Author(s): Spina M., Rocca G., Canella A., Scalvi A.
Abstract: Introduction The results and causes of failure for 61 patients undergoing surgery for femoral hip periprosthetic fracture are reported. Materials and methods Fractures were classified according to the Vancouver System. Osteosynthesis was performed in 88% of cases and prosthetic revision in 12% of cases. Clinical and functional outcomes were assessed according to the Harris Hip Score and radiological results were evaluated using Beals and Tower’s criteria.

Title: Cohort profile: Norwegian Epidemiologic Osteoporosis Studies (NOREPOS)*.
Citation: Scandinavian Journal of Public Health, 01 December 2014, 42(8): 804-813
Author(s): Søgaard, Anne Johanne, Meyer, Haakon E., Emaus, Nina, Grimnes, Guri, Gjesdal, Clara Gram, Forsmo, Siri, Schei, Berit, Tell, Grethe S.

Title: Comparison of hip geometry, strength, and estimated fracture risk in women with anorexia nervosa and overweight/obese women
Citation: Journal of Clinical Endocrinology and Metabolism, December 2014, 99(12): 4664-4673
Abstract: Context: Data suggest that anorexia nervosa (AN) and obesity are complicated by elevated fracture risk, but skeletal site-specific data are lacking. Traditional bone mineral density (BMD) measurements are unsatisfactory at both weight extremes. Hip structural analysis (HSA) uses dual-energy X-ray absorptiometry data to estimate hip geometry and femoral strength. Factor of risk (I) is the ratio of force applied to the hip from a fall with respect to femoral strength; higher values indicate higher hip fracture risk. Objective: The objective of the study was to investigate hip fracture risk in AN and overweight/obese women.

Title: Cost-effectiveness of training rural providers to identify and treat patients at risk for fragility fractures.
Citation: Osteoporosis International, December 2014, 25(12): 2701-7
Abstract: This is a cost-effectiveness analysis of training rural providers to identify and treat osteoporosis. Results showed a slight cost savings, increase in life years, increase in treatment rates, and decrease in fracture incidence. However, the results were sensitive to small differences in effectiveness, being cost-effective in 70 % of simulations during probabilistic sensitivity analysis.

Title: Factors Affecting Postsurgery Hip Fracture Recovery
Citation: Journal of Orthopaedics, Trauma and Rehabilitation, December 2014, 18(2): 54-58
Author(s): Wallace S., Ellington B.J.
Abstract: After hip fracture surgery, patients seldom return to their prefracture functional state and there is a 43% rate of mortality and institutionalisation of postsurgery hip fracture patients. A systematic literature review was conducted to identify preoperative, perioperative, postoperative, and psychosocial factors that may hinder postsurgery hip fracture patients from returning to previous functionality. Factors that were identified as being associated with postsurgical outcomes were age, muscle strength, prefracture living arrangements, number of daily medications taken, oxygen levels, fracture type and location, haemoglobin (Hb) level, wait time prior to surgery, length of hospital stay (LOS), and dementia or depression.

Title: Factors influencing functional outcomes in united intertrochanteric hip fractures: A negative effect of lag screw sliding
Citation: Orthopedics, December 2014, 37(12): e1101-e1107
Author(s): Yoo J.-H., Kim T.-Y., Chang J.-D., Kwak Y.-H., Kwon Y.-S.
Abstract: The purpose of this study was to investigate the factors influencing functional outcomes in elderly patients with united intertrochanteric fractures treated with hip nails and to ascertain whether decreased femoral offset due to lag screw sliding has a negative effect on functional outcomes in these patients. This retrospective study included 65 patients older than 65 years with united intertrochanteric fractures treated with hip nails.

Title: Fracture prevalence in adults with transfusion-dependent thalassemia is related to osteoporosis and age
Citation: Blood, December 2014, 124(21)
Author(s): Chapin J.C., Vogiatzi M., Kleinert D., De Filippis E., Christos P., Giardina P.
Abstract: Introduction: Adults with transfusion dependent thalassemia syndromes are living into later adulthood as a result of better transfusion therapy and chelation. Unfortunately, chronic health problems develop in these patients that persist into adulthood. Osteoporosis and osteopenia are significant co-morbidities in the thalassemia population as a result of impaired growth in childhood, extramedullary expansion of the marrow, iron deposition, vitamin D deficiencies, and hypogonadism. The morbidity of osteoporosis is significant in this population, leading to fractures and chronic pain. The purpose of this study was to provide a cross-sectional descriptive analysis of bone disease in adult thalassemia patients with osteoporosis and fracture histories.

Title: Femoral nerve block dose after hip fracture.
Citation: Anaesthesia, 01 December 2014, 69(12): 1403-1404
Author(s): Tidman, V, Bick, E

Title: Implementing a Knowledge Translation Intervention in Long-Term Care: Feasibility Results From the Vitamin D and Osteoporosis Study (ViDOS)
Citation: Journal of the American Medical Directors Association, December 2014, 15(12): 943-945
Author(s): Kennedy C.C., Thabane L., Ioannidis G., Adachi J.D., Papaioannou A.
Abstract: Objectives: To evaluate the feasibility of implementing an interdisciplinary, multifaceted knowledge translation intervention within long-term care (LTC) and to identify any challenges that should be considered in designing future studies. Design: Cluster randomized controlled trial. Setting: Forty LTC homes across the province of Ontario, Canada. Participants: LTC teams composed of physicians, nurses, pharmacists, and other staff.

Title: Improving the management of hip fractures in the elderly: A role for the perioperative surgical home?
Citation: Anesthesiology, December 2014, 121(6): 1144-1146
Author(s): Colquhoun A.D., Zuelzer W., Butterworth J.F.
**Title:** Improving hip fracture care in Ireland: A preliminary report of the Irish hip fracture database  
**Citation:** Journal of Osteoporosis, December 2014  
**Author(s):** Ellanti P., Cushen B., Galbraith A., Brent L., Hurson C., Ahern E.  
**Abstract:** Introduction. Hip fractures are common injuries in the older persons, with significant associated morbidity and mortality. The Irish Hip Fracture Database (IHFD) was implemented to monitor standards of care against international standards. Methods. The IHFD is a clinically led web-based audit. We summarize the data collected on hip fractures from April 2012 to March 2013 from 8 centres.

**Title:** Improving the management of hip fractures in the elderly: a role for the perioperative surgical home?  
**Citation:** Anesthesiology, 01 December 2014, 121(6): 1144-1146  
**Author(s):** Colquhoun, Alex D, Zuelzer, Wilhelm, Butterworth 4th, John F

**Title:** Iron overload causes osteoporosis in thalassemia major patients through interaction with transient receptor potential vanilloid type 1 (TRPV1) channels  
**Citation:** Haematologica, December 2014, 99(12): 1876-1884  
**Author(s):** Rossi F., Perrotta S., Bellini G., Luongo L., Tortora C., Siniscalco D., Francese M., Torella M., Nobili B., Di Marzo V., Maione S.  
**Abstract:** The pathogenesis of bone resorption in b-thalassemia major is multifactorial and our understanding of the underlying molecular and cellular mechanisms remains incomplete. Considering the emerging importance of the endocannabinoid/ endovanilloid system in bone metabolism, it may be instructive to examine a potential role for this system in the development of osteoporosis in patients with b-thalassemia major and its relationship with iron overload and iron chelation therapy. This study demonstrates that, in thalassemic-derived osteoclasts, tartrateresistant acid phosphatase expression inversely correlates with femoral and lumbar bone mineral density, and directly correlates with ferritin levels and liver iron concentration.

**Title:** Is bigger always better? A nationwide study of hip fracture unit volume, 30-day mortality, quality of in-hospital care, and length of hospital stay  
**Citation:** Medical Care, December 2014, 52(12): 1023-1029  
**Author(s):** Kristensen P.K., Thillemann T.M., Johnsen S.P.  
**Abstract:** Background: Higher patient volume has been linked with better clinical outcomes for a range of surgical procedures; however, little is known about the impact of volume on quality of care and clinical outcome among patients with hip fracture. Objectives: To examine the association between hip fracture patient volume and 30-day mortality, quality of in-hospital care, time to surgery, and length of hospital stay, respectively.

**Title:** Locking plate fixation versus antegrade nailing of 3- and 4-part proximal humerus fractures in patients without osteoporosis. Comparative retrospective study of 63 cases  
**Citation:** Orthopaedics and Traumatology: Surgery and Research, December 2014, 100(8): 917-924  
**Author(s):** Boudard G., Pomares G., Milin L., Lemonnier I., Coudane H., Mainard D., Delagoutte J.-P.  
**Abstract:** Introduction: There is no consensus on the treatment of proximal humeral fractures. The goal of the present retrospective observational study was to compare functional and radiological results and complications of internal fixation using locking plates versus antegrade nailing in the treatment of non-osteoporotic Neer classification 3- and 4-part fractures after a least 1. year of follow-up.

**Title:** Mastocytosis as an unusual cause of hip fracture in an elderly woman
Abstract: Mastocytosis is a type of myeloproliferative neoplasm characterized by accumulation and proliferation of morphologically and immunophenotypically abnormal mast cells in 1 or more organ systems. Clinical manifestations vary depending upon the organ involved and chemical mediators released by mast cells along with constitutional symptoms and musculoskeletal complaints. We report a case of isolated bone marrow mastocytosis in an 87-year-old woman who presented with a fall resulting in proximal femur fracture. Bone marrow biopsy revealed mastocytosis, and no evidence of systemic involvement or peripheral mastocytosis was found. Physicians should be aware of this entity, especially in patients with osteoporosis.

Title: Medical management of fragility fractures of the distal radius.
Citation: Orthopedics, 01 December 2014, 37(12): e1068-e1073
Author(s): Morgan, Cpt Emily N, Crawford, Maj David A, Scully, Maj William F, Noce, Ltc Nicholas J
Abstract: Fragility fractures of the distal radius represent an opportunity to diagnose and treat osteoporosis before further fractures occur. The goal of this study was to determine the prevalence of prescriptions for calcium/vitamin D supplementation and the prevalence of dual-energy x-ray absorptiometry (DEXA) scans in patients who sustained fragility fractures of the distal radius.

Title: Multidisciplinary, multi-modal nutritional care in acute hip fracture inpatients – Results of a pragmatic intervention.
Citation: Clinical Nutrition, December 2014, 33(6): 1101-1107
Author(s): Bell, Jack J., Bauer, Judith D., Capra, Sandra, Pulle, Ranjeev Chrys
Abstract: Summary Background & aims Malnutrition is highly prevalent and resistant to intervention following hip fracture. This study investigated the impact of individualised versus multidisciplinary nutritional care on nutrition intake and outcomes in patients admitted to a metropolitan hospital acute hip fracture unit.

Title: Multiple repetitive fragility fractures in young patients- differentiation between osteogenesis imperfecta, osteomalacia (secondary to vitamin D deficiency) and domestic abuse
Citation: Romanian Journal of Legal Medicine, December 2014, 22(4): 217-220
Author(s): Carsote M., Capatina C., Poiana C., Berteanu M.
Abstract: Fragility fractures (i.e. fractures occurring in abnormal bones, caused by minimal or no trauma) during childhood are infrequent and secondary to rare metabolic or bone diseases. The presence of multiple fractures should also raise the suspicion of inflicted injury (abuse), which is much more frequent, thus it is extremely important to distinguish between genuine fragility fractures and traumatic fractures. We report the case of a 20 years old male with a history of multiple unexplained fractures of the long bones during the entire childhood and adolescence. In this patient a diagnosis of both osteogenesis imperfecta and severe vitamin D deficiency was made on the basis of the clinical picture, biological data and radiographic findings. We provide a brief overview of the most important elements to be sought for in the differential diagnosis between fractures caused by induced trauma and fragility fractures secondary to either osteogenesis imperfecta or defective bone mineralisation due to vitamin D deficiency.

Title: Osteopenia and Osteoporosis Among 16-65 Year Old Women Attending Outpatient Clinics.
Citation: Journal of Community Health, December 2014,39(6): 1071-1076
Author(s): Begum, Rowshan, Ali, Liaquat, Akter, Jesmin, Takahashi, Osamu, Fukui, Tsuguya, Rahman, Mahbubur
Abstract: Women living in developing countries are more prone to osteoporotic fractures than women in developed countries. The objectives of this study were to estimate the burden of
osteopenia and osteoporosis and examine their correlates among Bangladeshi women. This cross-sectional study consisted of 500 women aged 16-65 years attending gynecology and family planning clinics of a tertiary hospital which cares urban/suburban low income population in Dhaka, Bangladesh. Bone mineral density (BMD) was measured at the lumbar spine and femoral neck using dual X-ray absorptiometry.

**Title:** Osteoporotic Hip and Spine Fractures: A Current Review  
**Citation:** Geriatric Orthopaedic Surgery and Rehabilitation, December 2014, 5(4): 207-212  
**Author(s):** Cannada L.K., Hill B.W.  
**Abstract:** Hip and spine fractures represent just a portion of the burden of osteoporosis; however, these fractures require treatment and often represent a major change in lifestyle for the patient and their family. The orthopedic surgeon plays a crucial role, not only in the treatment of these injuries but also providing guidance in prevention of future osteoporotic fractures. This review provides a brief epidemiology of the fractures, details the surgical techniques, and outlines the current treatment guidelines for orthopedic surgeons.

**Title:** Osteoporosis amongst Jordanians: Effect of pharmacist-directed brochure education on people's knowledge  
**Citation:** Tropical Journal of Pharmaceutical Research, December 2014, 13(12): 2101-2108  
**Author(s):** Elayeh E., Akour A., Yousef A.-M., Farah D., Hamaly M., Basheti I.  
**Abstract:** Purpose: To assess osteoporosis knowledge among Jordanian people and to evaluate the effect of a pharmacist-directed brochure on the knowledge. Methods: This study was an interventional study conducted in two major cities of Jordan. The baseline knowledge of participants about osteoporosis (KOS) was evaluated by a validated, back-translated questionnaire. Thereafter, participants received a pharmacist-directed brochure education about osteoporosis, and then their knowledge was assessed using the same questionnaire.

**Title:** Osteoporosis hospital admissions varied across sub-regions but not seasons in England: Hospital Episode Statistics, 2008-2011.  
**Citation:** Public Health (Elsevier), 01 December 2014, 128(12): 1125-1127  
**Author(s):** Chown, D., Shiue, I.

**Title:** OSTEOPOROSIS TREATMENTS.  
**Citation:** MPR - Nurse Practitioners' Edition, 01 December 2014, 21(4): 153-153  
**Language:** English

**Title:** Osteomalacia or osteoporosis - Case report  
**Citation:** Acta Facultatis Medicae Naisensis, December 2014, 31(4): 267-271  
**Author(s):** Zivkovic N., Stojanovic S.  
**Abstract:** The aim of the paper was to show the diagnostic and therapeutic approaches to a patient suffering from osteomalacia, as well as differential diagnosis with osteoporosis. Osteomalacia (OM) is a metabolic disease of bones which appears as a result of defective mineralization of newly formed bone matrix in adults. Diagnosis of disease may represent a big problem. A 67-year-old female patient from Pirot was examined in an outpatient unit by a rheumatologist in the Niska Banja Institute in December 2012. The patient reported pain along the vertebral column and inability to get out of bed. Radiography showed vertebral compression fractures and the patient had previously received surgical care at Orthopedics Ward of General Hospital Pirot due to the left femur fracture. Orthopedist, neurologist, physiatrist and practicing rheumatologist suspected osteoporosis. The diagnosis of osteomalacia was established in February, 2013. The treatment was initiated by introducing large doses of vitamin D and advising bisphosphonates. After eighth months, the patient's general condition was improved. This was demonstrated by her independent mobility.
Title: Osteoprotegerin, fibroblast growth factor 23, and vitamin D3 levels in male patients with hypogonadism
Citation: Hormone and Metabolic Research, December 2014, 46(13): 955-958
Author(s): Meric C., Sonmez A., Aydogdu A., Tapan S., Haymana C., Basaran Y., Baskoy K., Sertoglu E., Taslipinar A., Bolu E., Azal O.
Abstract: Cardiometabolic disorders and osteoporosis are prevalent in patients with hypogonadism. Osteoprotegerin (OPG) and fibroblast growth factor-23 (FGF-23), are co-secreted from bones and vascular endothelium, regulating bone mineral metabolism and vascular functions. Vitamin D is another hormone with dual effects on bone and vascular metabolism. The aim of this study was to search for any difference between the serum levels of OPG, FGF-23, and vitamin D in patients with hypogonadism and the healthy controls.

Title: Oxidative Stress Is a Predictor for Hip Fracture.
Citation: Lippincott's Bone & Joint Newsletter, 01 December 2014, 20(11): 127-128

Title: Pelvic Insufficiency Fractures
Citation: Geriatric Orthopaedic Surgery and Rehabilitation, December 2014, 5(4): 178-190
Author(s): O'Connor T.J., Cole P.A.
Abstract: Pelvic insufficiency fractures may occur in the absence of trauma or as a result of low-energy trauma in osteoporotic bone. With a growing geriatric population, the incidence of pelvic insufficiency fracture has increased over the last 3 decades and will continue to do so. These fractures can cause considerable pain, loss of independence, and economic burden to both the patient and the health care system. While many of these injuries are identified and treated based on plain radiographs, some remain difficult to diagnose. The role of advanced imaging in these cases is discussed. In addition to treating the fracture, medical comorbidities contributing to osteoporosis should be identified and corrected. Specific attention has been given to 25-OH serum vitamin D screening and repletion. Treatment generally consists of providing pain control and assisting patients with mobilization while allowing weight bearing as tolerated. In those unable to do so, invasive techniques such as sacroplasty as well as internal fixation may be beneficial. The role of operative fixation in insufficiency fractures is also discussed.

Title: Peripheral quantitative computed tomography-derived muscle density and peripheral magnetic resonance imaging-derived muscle adiposity: Precision and associations with fragility fractures in women
Citation: Journal of Musculoskeletal Neuronal Interactions, December 2014, 14(4): 401-410
Author(s): Wong A.K.O., Beattie K.A., Min K.K.H., Gordon C., Pickard L., Papaioannou A., Adachi J.D.
Abstract: Purpose: To determine the degree to which muscle density and fractures are explained by inter and intramuscular fat (IMF).

Title: Perioperative management of elderly patients with hip fracture
Citation: Anesthesiology, December 2014, 121(6): 1336-1341
Author(s): Boddaert J., Raux M., Khiami F., Riou B.

Title: Prediction of incident hip fracture with the estimated femoral strength by finite element analysis of DXA scans in the study of osteoporotic fractures
Citation: Journal of Bone and Mineral Research, December 2014, 29(12); 2594-2600
Author(s): Yang L., Palermo L., Black D.M., Eastell R.
Abstract: A bone fractures only when loaded beyond its strength. The purpose of this study was to determine the association of femoral strength, as estimated by finite element (FE) analysis of dual-
energy X-ray absorptiometry (DXA) scans, with incident hip fracture in comparison to hip bone mineral density (BMD), Fracture Risk Assessment Tool (FRAX), and hip structure analysis (HSA) variables. This prospective case-cohort study included a random sample of 1941 women and 668 incident hip fracture cases (295 in the random sample) during a mean-SD follow-up of 12.8-5.7 years from the Study of Osteoporotic Fractures (n=7860 community-dwelling women -67 years of age).

**Title:** Predictors of new fragility fractures after diagnosis of indolent systemic mastocytosis  
**Citation:** Journal of Allergy and Clinical Immunology, December 2014, 134(6): 1413-1421  
**Author(s):** Van Der Veer E., Arends S., Van Der Hoek S., Versluijs J.B., De Monchy J.G.R., Oude Elberink J.N.G., Van Doormaal J.J.  
**Abstract:** Background Fragility fractures (FFxs) and osteoporosis occur frequently in patients with indolent systemic mastocytosis (ISM), even before 50 years of age. Objective We sought to develop a prediction model to identify individual patients with ISM at risk of new FFxs.

**Title:** Predictors of Postoperative Cognitive Decline in Very Old Patients With Hip Fracture: A Retrospective Analysis  
**Citation:** Geriatric Orthopaedic Surgery and Rehabilitation, December 2014, 5(4): 165-172  
**Author(s):** Luger M.F., Muller S., Kammerlander C., Gosch M., Luger T.J.  
**Abstract:** Background: To investigate incidence and predictors of the various postoperative cognitive declines in old patients with hip fracture. Methods: This retrospective chart study evaluated 411 patients (age >80 years, follow-up 5 years). After exclusion of 82 patients (preexisting dementia or delirium), 70 patients showing either diagnosed postoperative delirium (POD; group 1; N = 18, 5.5%) or an unspecified cognitive dysfunction and behavior (group 2; N = 52, 15.8%) were analyzed and compared with those without any acute postoperative cerebral impairment (control group; N = 259, 78.7%).

**Title:** Reliability and Validity of the Chinese Versions of Self-Efficacy and Outcome Expectations for Osteoporosis Medication Adherence Scales in Chinese Immigrants.  
**Citation:** Journal of Nursing Measurement, 01 December 2014, 22(3): 472-488  
**Author(s):** Bing-Bing Qi, Resnick, Barbara  
**Abstract:** Background and Purpose: To assess the psychometric properties of Chinese versions self-efficacy and outcome expectations on osteoporosis medication adherence (SEOMA-C and OEOMA-C) scales. Methods: Back-translated tools were assessed by internal consistency and R² by structured equation modeling, confirmatory factor analyses, hypothesis testing, and criterion-related validity among 110 (81 females, 29 males) Mandarin-speaking immigrants (mean age = 63.44, SD = 9.63).

**Title:** Serum levels of C-terminal agrin fragment (CAF) are associated with sarcopenia in older hip fractured patients  
**Citation:** Experimental Gerontology, December 2014, 60:79-82  
**Author(s):** Marzetti E., Calvani R., Lorenzi M., Marini F., D’Angelo E., Martone A.M., Celi M., Tosato M., Bernabei R., Landi F.  
**Abstract:** Background: Serum concentrations of the C-terminal fragment of agrin (CAF), a component of the neuromuscular junction (NMJ), are elevated in older community-dwellers with sarcopenia. Whether CAF may be used as a marker for muscle wasting in the presence of NMJ mechanical damage is presently unknown. The present study was undertaken to verify if serum CAF levels were associated with sarcopenia in older hip fractured patients.

**Title:** Selected nutrients and their implications for health and disease across the lifespan: A roadmap  
**Citation:** Nutrients, December 2014, 6(12): 6076-6094

**Abstract:** Worldwide approximately two billion people have a diet insufficient in micronutrients. Even in the developed world, an increasing number of people consume nutrient-poor food on a regular basis. Recent surveys in Western countries consistently indicate inadequate intake of nutrients such as vitamins and minerals, compared to recommendations. The International Osteoporosis Foundation’s (IOF) latest figures show that globally about 88% of the population does not have an optimal vitamin D status.

**Title:** Single and combined use of human parathyroid hormone (PTH) (1-34) on areal bone mineral density (aBMD) in postmenopausal women with osteoporosis: Evidence based on 9 RCTs

**Citation:** Medical Science Monitor, December 2014, 20: 2624-2632

**Author(s):** Song J., Jing Z., Chang F., Li L., Su Y.

**Abstract:** Background: Human parathyroid hormone (PTH) (1-34) or teriparatide (TPTD) is an anabolic agent for osteoporosis. This recombinant protein stimulates positive bone formation balance and bone remodeling. However, when concomitantly used with antiresorptive (AR) agents, previous studies reported conflicting results in their potential additive and synergistic effects on bone metabolism and bone mineral density (BMD). This study aimed to integrate previous evidence to assess the effect of TPTD monotherapy and the additive effect of TPTD on AR agents in postmenopausal women with osteoporosis.

**Title:** Sirt6 deficiency produces intrinsic osteoblast defects leading to low-turnover (age-related) osteoporosis

**Citation:** Molecular Biology of the Cell, December 2014, 25(25): 1059-1524

**Author(s):** Sugatani T., Agapova O., Malluche H., Hruska K.A.

**Abstract:** Several pathological conditions resembling human aging, including osteopenia, have been observed in sirtuin 6 (Sirt6)-deficient mice. However, the mechanism by which Sirt6 controls bone metabolism is unknown. The original report ascribing osteopenia to decreased circulating IGF1 is likely incorrect. Here, we show that loss of Sirt6 function produces a low-turnover osteoporosis caused by impaired bone formation by osteoblasts and bone resorption by osteoclasts. Micro CT analysis of long bones from Sirt6-deficient mice revealed decreased bone volume, trabecular bone mineral density, trabecular number, trabecular thickness, and cortical thickness compared to wild-type mice. Bone histomorphometry revealed impaired bone formation and bone resorption along with decreased osteoblast and osteoclast numbers. Osteoblastogenesis and osteoclastogenesis, which is an osteoblast free system, were impaired in culture.

**Title:** Subgroup variations in bone mineral density response to zoledronic acid after hip fracture

**Citation:** Journal of Bone and Mineral Research, December 2014, 29(12): 2545-2551

**Author(s):** Magaziner J.S., Orwig D.L., Lyles K.W., Nordsletten L., Boonen S., Adachi J.D., Recknor C., Colon-Emeric C.S., Mesenbrink P., Bucci-Rechtweg C., Su G.

**Abstract:** Minimizing post-fracture bone loss is an important aspect of recovery from hip fracture, and determination of factors that affect bone mineral density (BMD) response to treatment after hip fracture may assist in the development of targeted therapeutic interventions. A post hoc analysis of the HORIZON Recurrent Fracture Trial was done to determine the effect of zoledronic acid (ZOL) on total hip (TH) and femoral neck (FN) BMD in subgroups with low-trauma hip fracture. A total of 2127 patients were randomized (1:1) to yearly infusions of ZOL 5mg (n=1065) or placebo (n=1062) within 90 days of operation for low-trauma hip fracture. The 1486 patients with a baseline and at least one post-baseline BMD assessment at TH or FN (ZOL=745, placebo=741) were included in the analyses.

**Title:** Targeted delivery of lovastatin and tocotrienol to fracture site promotes fracture healing in osteoporosis model: Micro-computed tomography and biomechanical evaluation
Author(s): Ibrahim N., Khamis M.F., Yunoh M.F.M., Abdullah S., Mohamed N., Shuid A.N.

Abstract: Osteoporosis is becoming a major health problem that is associated with increased fracture risk. Previous studies have shown that osteoporosis could delay fracture healing. Although there are potential agents available to promote fracture healing of osteoporotic bone such as statins and tocotrienol, studies on direct delivery of these agents to the fracture site are limited. This study was designed to investigate the effects of two potential agents, lovastatin and tocotrienol using targeted drug delivery system on fracture healing of postmenopausal osteoporosis rats. The fracture healing was evaluated using micro CT and biomechanical parameters. Forty-eight Sprague-Dawley female rats were divided into 6 groups. The first group was sham-operated (SO), while the others were ovariectomized (OVx). After two months, the right tibiae of all rats were fractured at metaphysis region using pulsed ultrasound and were fixed with plates and screws.

Title: Vitamin D levels are frequently below normal in multiple myeloma patients and are infrequently assessed by their treating physicians

Author(s): Ravenborg N., Udd K., Berenson A., Costa F., Berenson J.R.

Abstract: Introduction: In addition to breast and colorectal cancers, multiple myeloma has also been associated with vitamin D deficiency. Given the role of vitamin D in calcium absorption and bone metabolism, it is crucial to maintain sufficient levels for multiple myeloma patients because of their high risk of bone-related complications. We hypothesized that there was a high prevalence of vitamin D deficiency and insufficiency among multiple myeloma patients. We also hypothesized that there is inadequate screening of vitamin D levels throughout community oncology clinics nationwide.

Title: Why Most Calcium Supplements Are Useless for Osteoporosis.

Citation: Bottom Line Health, 02 December 2014, 28(2): 2
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