This Current Awareness Bulletin is produced by the Healthcare Library to provide staff with a range of resources to support practice. It includes recently published guidelines and research, news items, and details of new library resources.

OpenAthens
To access journal articles that are available in full text you will need to have a username and password for OpenAthens. To register for an OpenAthens account click here.

For further information or support please contact the Healthcare Library, SDH Central, Salisbury District Hospital, Salisbury, Wiltshire SP2 8BJ.
01722 429054 or 01722 336262 ext 4430, Library.office@salisbury.nhs.uk, or visit the library website at www.library.salisbury.nhs.uk

Guidelines

National Institute for Health and Care Excellence (NICE)

Suture fixation of acute disruption of the distal tibiofibular syndesmosis
NICE interventional procedure guidance [IPG521] Published date: June 2015

New and Updated Cochrane Systematic Reviews

New Reviews – April 2015

Percutaneous vertebroplasty for osteoporotic vertebral compression fracture
Red blood cell transfusion for people undergoing hip fracture surgery
Surgical versus non-surgical interventions in people with adolescent idiopathic scoliosis

Updated Reviews – April 2015

Preoperative skin antiseptics for preventing surgical wound infections after clean surgery
Use of plastic adhesive drapes during surgery for preventing surgical site infection

Updated Reviews – May 2015

Antifibrinolytic drugs for acute traumatic injury
Surgical interventions for treating acute fractures or non-union of the middle third of the clavicle

New Reviews – June 2015

Computed tomography versus magnetic resonance imaging versus bone scintigraphy for clinically suspected scaphoid fractures in patients with negative plain radiographs
Enhanced rehabilitation and care models for adults with dementia following hip fracture surgery

Updated Reviews – June 2015
Patient controlled opioid analgesia versus non-patient controlled opioid analgesia for postoperative pain

Topical NSAIDs for acute musculoskeletal pain in adults

Journal Articles

Please click on the blue link at the end of the abstract (where available) to access full text. You may need an Athens username and password. To register for an Athens account click here. If you have any difficulty accessing the full text articles, or if you would like us to obtain any of the articles for you, please contact the Healthcare Library.

Table of Contents

1. Accuracy of patient-specific instrumentation compared with conventional instrumentation in total knee arthroplasty
2. Anterior vs. Posterior Approach for Total Hip Arthroplasty, a Systematic Review and Meta-analysis
3. Assessment of chronic post-surgical pain after knee replacement: Development of a core outcome set
4. Biological augmentation and tissue engineering approaches in meniscus surgery
5. Bipolar versus unipolar hemiarthroplasty for displaced femoral neck fractures in the elderly patient: a systematic review and meta-analysis of randomized trials
6. Bone grafts and bone substitutes for opening-wedge osteotomies of the knee: A systematic review
7. Ceramic on ceramic or ceramic-on-polyethylene for total hip arthroplasty: A systemic review and meta-analysis of prospective randomized studies
8. Ceramic-on-ceramic versus ceramic-on-polyethylene bearing surfaces in total hip arthroplasty
9. Clinically significant corrosion at the head-neck taper interface in total hip arthroplasty: A systematic review and case series
10. Comparative efficacy and tolerability of three treatments in old people with osteoporotic vertebral compression fracture: A network meta-analysis and systematic review
11. Comparing intramedullary nailing, external fixation and external fixation followed by Intramedullary Nailing as management for open fractures of the tibial shaft: A systematic review
12. Comparison of percutaneous vertebroplasty and balloon kyphoplasty for the treatment of single level vertebral compression fractures: A meta-analysis of the literature
13. Do patients really gain outcome benefits when using the high-flex knee prosthesis in total knee arthroplasty? A meta-analysis of randomized controlled trials
14. Effect of topical tranexamic acid in reducing bleeding and transfusions in TKA
15. Grade 3 open tibial shaft fractures treated with a circular frame, functional outcome and systematic review of literature
16. How much arthritis is too much for hip arthroscopy: A systematic review
17. Incidence of adjacent segment degeneration in cervical disc arthroplasty versus anterior cervical decompression and fusion meta-analysis of prospective studies
18. Incidence of Revision After Primary Implantation of the Salto Mobile Version and Salto TalarisTM Total Ankle Prostheses: A Systematic Review
20. Interventions for treating displaced midshaft clavicular fractures: a Bayesian network meta-analysis of randomized controlled trials
21. Intramedullary nail versus plate fixation for humeral shaft fractures: a systematic review of overlapping meta-analyses
22. Intramedullary nail versus plate treatments for distal tibial fractures: A meta-analysis
23. Is tranexamic acid clinically effective and safe to prevent blood loss in total knee arthroplasty? A meta-analysis of 34 randomized controlled trials
24. Lack of efficacy of prophylactic application of antibiotic-loaded bone cement for prevention of infection in primary total knee arthroplasty: Results of a meta-analysis
25. Large fresh osteochondral allografts of the knee: A systematic clinical and basic science review of the literature
26. Lesser tuberosity osteotomy versus soft-tissue subscapularis release in Shoulder arthroplasty: A systematic review
27. Minimum 4-year outcomes of cervical total disc arthroplasty versus fusion
28. No clinical benefit of high-flex total knee arthroplasty: A meta-analysis of randomized controlled trials
29. One step closer to sparing total blood loss and transfusion rate in total knee arthroplasty: a meta-analysis of different methods of tranexamic acid administration
30. Open reduction and closed reduction internal fixation in treatment of femoral neck fractures: A meta-analysis
31. Outcomes after primary open or endoscopic abductor tendon repair in the hip: A systematic review of the literature
32. Outcomes of talar neck fractures: A systematic review and meta-analysis
33. Patient-specific instrumentation does not improve accuracy in total knee arthroplasty
34. Predictors of persistent pain after total knee arthroplasty: A systematic review and meta-analysis
35. Setting benchmark revision rates for total knee replacement: Analysis of registry evidence
36. Similar outcome after retention or sacrifice of the posterior cruciate ligament in total knee arthroplasty: A systematic review and meta-analysis
37. Smoking and risk of prosthesis-related complications after total hip arthroplasty: A meta-analysis of cohort studies
38. Special tests for assessing meniscal tears within the knee: A systematic review and meta-analysis
39. The effect of surgical synovectomy and radiotherapy on the rate of recurrence of pigmented villonodular synovitis of the knee: an individual patient meta-analysis
40. The effect of surgical synovectomy and radiotherapy on the rate of recurrence of pigmented villonodular synovitis of the knee: An individual patient meta-analysis
41. The influence of humeral head inclination in reverse total shoulder arthroplasty: A systematic review
42. There Are No Differences in Short- to Mid-term Survivorship Among Total Hip-bearing Surface Options: A Network Meta-analysis
43. Thirty-day readmission rates in orthopedics: A systematic review and meta-analysis
44. Topical application of tranexamic acid in primary total hip arthroplasty: A systemic review and meta-analysis
45. Treatment of articular cartilage lesions of the knee by microfracture or autologous chondrocyte implantation: A systematic review

1. Title: Accuracy of patient-specific instrumentation compared with conventional instrumentation in total knee arthroplasty
   Citation: Orthopedics, April 2015, vol./is. 38/4(e305-e313), 0147-7447;1938-2367 (01 Apr 2015)
   Language: English
   Abstract: Patient-specific instrumentation (PSI) has recently been introduced to improve the alignment following total knee arthroplasty (TKA). However, controversy remains between PSI and conventional instrumentation. The aim of this study is to compare the accuracy of PSI with conventional instruments for total knee arthroplasty (TKA). A systematic literature search was performed in databases including PubMed, the Cochrane Library, EMBASE, and Web of Science. All of the available randomized, controlled trials (RCTs) or nonrandomized, controlled trials (nRCTs) comparing PSI with conventional instruments for TKA were identified. A statistical analysis was performed of this meta-analysis. Eighteen studies with 2417 patients were included in the authors' final analysis. The results of the meta-analysis demonstrated that there were no statistical differences in outliers of the mechanical axis (risk ratio [RR], 0.84; 95% confidence interval [CI], 0.61-1.11), the femoral component in the coronal (RR, 0.56; 95% CI, 0.32-1.05) and sagittal (RR, 0.83; 95% CI, 0.60-1.14) plane, the tibial component in the coronal (RR, 0.84; 95% CI, 0.52-1.35) and sagittal (RR, 1.04; 95% CI, 0.69-1.55) plane, and the femoral component rotation (RR, 1.02; 95% CI, 0.57, 1.83) between the 2 groups. In addition, subgroup analysis showed that the study design and imaging used for preoperative scanning did not affect the outcome of the alignment, but a different PSI system might. The authors' meta-analysis indicated that the accuracy of PSI was not superior to conventional instruments for patients undergoing TKA. Future RCTs should focus on functional outcomes and component survivorship with mid- to long-term follow-up.
   Publication type: Journal: Article
   Source: EMBASE

2. Title: Anterior vs. Posterior Approach for Total Hip Arthroplasty, a Systematic Review and Meta-analysis
   Citation: Journal of Arthroplasty, March 2015, vol./is. 30/3(419-434), 0883-5403;1532-8406 (01 Mar 2015)
   Author(s): Higgins B.T., Barlow D.R., Heagerty N.E., Lin T.J.
   Language: English
   Abstract: The objective of this study is to compare the clinical, radiographic and surgical outcomes among patients undergoing primary THA performed via the anterior versus posterior approach. We searched numerous sources and eventually included 17 studies, totaling 2302 participants. In terms of post-operative pain and function, the anterior
approach was significantly favored in 4 studies at short-term follow-up. Pooled estimates showed a significant difference in favor of the anterior approach in terms of length of stay and dislocations. Current evidence comparing outcomes following anterior versus posterior THA does not demonstrate clear superiority of either approach. Until more rigorous, randomized evidence is available, we recommend choice of surgical approach for THA be based on patient characteristics, surgeon experience and surgeon and patient preference.

**Publication type:** Journal: Article

**Source:** EMBASE

---

3. **Title:** Assessment of chronic post-surgical pain after knee replacement: Development of a core outcome set

**Citation:** European Journal of Pain (United Kingdom), May 2015, vol./is. 19/5(611-620), 1090-3801;1532-2149 (01 May 2015)

**Author(s):** Wylde V., Mackichan F., Bruce J., Gooberman-Hill R.

**Language:** English

**Abstract:** Background Approximately 20% of patients experience chronic post-surgical pain (CPSP) after total knee replacement (TKR). There is scope to improve assessment of CPSP after TKR, and this study aimed to develop a core outcome set. Methods Eighty patients and 43 clinicians were recruited into a three-round modified Delphi study. In Round 1, participants were presented with 56 pain features identified from a systematic review, structured interviews with patients and focus groups with clinicians. Participants assigned importance ratings, using a 1-9 scale, to individual pain features; those features rated as most important were retained in subsequent rounds. Consensus that a pain feature should be included in the core outcome set was defined as the feature having a rating of 7-9 by >70% of both panels (patients and clinicians) and 1-3 by <15% of both panels or rated as 7-9 by >90% of one panel. Results Round 1 was completed by 71 patients and 39 clinicians, and Round 3 by 62 patients and 33 clinicians. The final consensus was that 33 pain features were important. These were grouped into an 8-item core outcome set comprising: pain intensity, pain interference with daily living, pain and physical functioning, temporal aspects of pain, pain description, emotional aspects of pain, use of pain medication, and improvement and satisfaction with pain relief. Conclusions This core outcome set serves to guide assessment of CPSP after TKR. Consistency in assessment can promote standardized reporting and facilitate comparability between studies that address a common but understudied type of CPSP.

**Publication type:** Journal: Article

**Source:** EMBASE

---

4. **Title:** Biological augmentation and tissue engineering approaches in meniscus surgery

**Citation:** Arthroscopy - Journal of Arthroscopic and Related Surgery, May 2015, vol./is. 31/5(944-955), 0749-8063;1526-3231 (01 May 2015)

**Author(s):** Moran C.J., Busilacchi A., Lee C.A., Athanasiou K.A., Verdonk P.C.

**Language:** English

**Abstract:** Purpose The purpose of this review was to evaluate the role of biological augmentation and tissue engineering strategies in meniscus surgery. Although clinical (human), preclinical (animal), and in vitro tissue engineering studies are included here, we have placed additional focus on addressing preclinical and clinical studies reported during the 5-year period used in this review in a systematic fashion while also providing a summary review of some important in vitro tissue engineering findings in the field over the past decade. Methods A search was performed on PubMed for original works published from 2009 to March 31, 2014 using the term "meniscus" with all the following terms: "scaffolds," "constructs," "cells," "growth factors," "implant," "tissue engineering," and "regenerative medicine." Inclusion criteria were the following: English-language articles and original clinical, preclinical (in vivo), and in vitro studies of tissue engineering and regenerative medicine application in knee meniscus lesions published from 2009 to March 31, 2014. Results Three clinical studies and 18 preclinical studies were identified along with 68 tissue engineering in vitro studies. These reports show the increasing promise of biological augmentation and tissue engineering strategies in meniscus surgery. The role of stem cell and growth factor therapy appears to be particularly useful. A review of in vitro tissue engineering studies found a large number of scaffold types to be of promise for meniscus replacement. Limitations include a relatively low number of clinical or preclinical in vivo studies, in addition to the fact there is as yet no report in the literature of tissue-engineered meniscus construct used clinically. Neither does the literature provide clarity on the optimal meniscus scaffold type or biological augmentation with which meniscus repair or replacement would be best addressed in the future. There is increasing focus on the role of mechanobiology and biomechanical and biochemical cues in this process, however, and it is hoped that this may lead to improvements in this strategy. Conclusions There appears to be significant potential for biological augmentation and tissue engineering strategies in meniscus surgery to enhance options for repair and replacement. However, there are still relatively few clinical studies being reported in this regard. There is
a strong need for improved translational activities and infrastructure to link the large amounts of in vitro and preclinical biological and tissue engineering data to clinical application. Level of Evidence Level IV, systematic review of Level I-IV studies.

**Publication type:** Journal: Article  
**Source:** EMBASE

5. **Title:** Bipolar versus unipolar hemiarthroplasty for displaced femoral neck fractures in the elder patient: a systematic review and meta-analysis of randomized trials  
**Citation:** European Journal of Orthopaedic Surgery and Traumatology, 2015, vol./is. 25/3(425-433), 1633-8065;1432-1068 (2015)  
**Author(s):** Yang B., Lin X., Yin X.M., Wen X.Z.  
**Language:** English  
**Abstract:** Objective: To assess the safety and efficacy that compare bipolar hemiarthroplasty with unipolar hemiarthroplasty for the treatment of femoral neck fracture in the patient aged more than 65 years. Methods: We searched databases including PubMed Central, MEDLINE (from 1966), EMBASE (from 1980) and the Cochrane Central Register of Controlled Trials database. Only prospective randomized controlled trials (RCTs) that compare bipolar hemiarthroplasty with unipolar hemiarthroplasty for the treatment of femoral neck fracture in the elder patient were included. RevMan 5.2 from the Cochrane Collaboration was applied to perform the meta-analysis. Results: Six relevant RCTs with a total of 982 patients were retrieved. From this meta-analysis, mortality rates showed no statistical difference between two treatments, 14.7 % for bipolar versus 13.8 % for unipolar. The acetabular erosion rates were significantly different between two groups (P = 0.01), 1.2 % in bipolar versus 5.5 % in unipolar group. Overall complication rates, dislocation rates, infection rates and reoperation rate rates between two groups showed no statistical difference (P > 0.05). Neither of two treatments appeared to be superior regarding the clinical function assessed by Harris hip scores or return to pre-injury state rates (P > 0.05). Conclusions: Both bipolar and unipolar hemiarthroplasty for the treatment of elderly patient suffering displaced femoral neck fracture achieve similar and satisfy clinical outcome in short-term follow-up. Unipolar hemiarthroplasty seems to be a more cost-effectiveness option for elderly patient.

**Publication type:** Journal: Review  
**Source:** EMBASE

6. **Title:** Bone grafts and bone substitutes for opening-wedge osteotomies of the knee: A systematic review  
**Citation:** Arthroscopy - Journal of Arthroscopic and Related Surgery, April 2015, vol./is. 31/4(720-730), 0749-8063;1526-3231 (01 Apr 2015)  
**Author(s):** Lash N.J., Feller J.A., Batty L.M., Wasiak J., Richmond A.K.  
**Language:** English  
**Abstract:** Purpose To establish the rate of use of various void fillers in the setting of opening-wedge osteotomy around the knee, the types of fixation used, and the rates of delayed union or nonunion related to these variables. In addition, this review addressed short-term to midterm outcomes and complication rates associated with such procedures. Methods The electronic databases Medline, Embase, and PubMed were searched using the methodology for systematic review as recommended by the Cochrane Collaboration. The search terms used were as follows: knee, osteotomy, knee joint, bone grafting, opening osteotomy, opening wedge, tibial osteotomy, femoral osteotomy, and bone substitute. We screened 1,383 articles and applied exclusion criteria. Fifty-six articles were included. Results We included 3,033 cases of osteotomy in 2,910 patients. The mean age of patients was 50 years, with a mean follow-up period of 42 months. Male patients comprised 52% of patients. The mean alignment change was 10.8degree, shifting the mechanical axis to 5.1degree valgus. Delayed union/nonunion rates were 2.6%, 4.6%, and 4.5% for autograft, allograft bone, and synthetic bone substitutes, respectively (P =.03). Delayed union/nonunion rates were significantly lower for autograft compared with allograft (P =.03) and for autograft and allograft compared with synthetic bone substitutes (P <.0001). Non-locking plates (n = 2,148) had a rate of delayed union/nonunion of 3.7% and a mean loss of correction over time of 0.5degree. Locking plates (n = 681) had a rate of delayed union/nonunion of 2.6% and a loss of correction of 2.3degree. All mean knee outcome scores improved, and an overall complication rate of 14% was found. Conclusions Opening-wedge osteotomy had good short-term to midterm outcomes with acceptable complication rates. The lowest rates of delayed union/nonunion were in autograft bone-filled osteotomies. Plate type does not appear to affect osteotomy union or loss of correction. Level of Evidence Level IV, systematic review of Level I to IV studies.

**Publication type:** Journal: Review  
**Source:** EMBASE
Abstract: Background: Wear debris of polyethylene has become a restraining factor of the durability for total hip arthroplasty (THA). Ceramic on ceramic (COC) has better wear resistance while the squeaking sound and prosthesis fracture are of concern. It is still a controversy that bearing couples are better for THA. Methods: We performed a systematic review of all English articles identified from PubMed (1966-), Embase (1980-) and the Cochrane Library. Clinical outcomes, complications, revision rates, and radiographic outcomes of COC-THA and ceramic on polyethylene (COP)-THA were compared and evaluated. Results: Eight prospective randomized trials enrolling a total of 1508 patients and 1702 THA surgeries were identified. Our results demonstrated the prosthesis fracture and the squeaking sound is significantly higher in COC group and higher wear rate of the COP. Hip function, loosening rate, dislocation rate, revision rate, and the osteolysis rate were comparable between two groups. According to Grading of Recommendations Assessment, Development and Evaluation system assessment, the strength of evidence was high for prosthesis fracture, dislocation, osteolysis, and moderate for radiolucent line or loosening, hip noise, and revision. Conclusions: Up to now, there is insufficient evidence to identify any clinical advantage of COC compared with COP. Longer follow-up of larger randomized trial is needed to clarify the outcomes.

Publication type: Journal: Article
Source: EMBASE

Abstract: The choice between ceramic-on-ceramic (COC) and ceramic-on-polyethylene (COP) in primary total hip arthroplasty (THA) remains controversial. The purpose of this study was to evaluate the reliability and durability of COC vs COP bearing surfaces in THA. Based on published randomized, controlled trials (RCTs) identified in PubMed, Embase, and the Cochrane Central Register of Controlled Trials, the authors performed a meta-analysis comparing the clinical and radiographic outcomes of COC with those of COP. Two investigators independently selected the studies and extracted the data. The methodological quality of each RCT was assessed using the Physiotherapy Evidence Database (PEDro) scale. Relative risks and 95% confidence intervals from each trial were pooled using random-effects or fixed-effects models depending on the heterogeneity of the included studies. Nine RCTs involving 1575 patients (1747 hips) met the predetermined inclusion criteria. Eight of 9 included RCTs had high methodological quality. The heterogeneity was not significant, and all the results were pooled using a fixed-effects model. The results demonstrated that COC significantly increased the risks of squeaking and total implant fracture compared with COP. No significant differences with respect to revision, osteolysis and radiolucent lines, loosening, dislocation, and deep infection were observed between the COC and COP bearing surfaces. This meta-analysis resulted in no sufficient evidence to identify any clinical or radiographic advantage of COC vs COP bearing surfaces in the short- to mid-term follow-up period. Long-term follow-up is required for further evaluation.

Publication type: Journal: Article
Source: EMBASE

Abstract: Corrosion of the head-neck junction of the femoral component in total hip arthroplasty has been associated with symptomatic adverse local tissue reactions, trunion fracture and elevated serum metal ions. An analysis of risk factors and treatment strategies for corrosion at this interface is lacking in the literature. We therefore performed a systematic review of AAOS proceedings, MEDLINE and EMBASE databases, and included our own case series. A total of 24 articles representing 776 cases of head-neck corrosion met inclusion criteria. The combination of large femoral head sizes and small taper dimensions comprised the majority of published corrosion cases. Revision to ceramic head and ceramic/polyethylene liner was the most commonly utilised treatment. Coating precipitation, mixed alloy coupling and head-neck modulus mismatch collectively appear to contribute to the corrosive process.
10. Title: Comparative efficacy and tolerability of three treatments in old people with osteoporotic vertebral compression fracture: A network meta-analysis and systematic review

Citation: PLoS ONE, April 2015, vol./is. 10/4, 1932-6203 (13 Apr 2015)


Language: English

Abstract: Purpose The question which kind of methods is most suitable for treating the old people for osteoporotic vertebral compression fracture is still discussed and pairwise meta-analyses cannot get hierarchies of these treatments. Our aim is to integrate the evidence to provide hierarchies of the comparative efficacy measured by the change of VAS (Visual Analogue Scale) and tolerability measured by incidence of new fractures and risk of all-cause discontinuation on three treatments (percutaneous vertebroplasty (PVP)?balloon kyphoplasty (BK) and conservative treatment(CT)). Methods We performed a Bayesian-framework network meta-analysis of randomized controlled trials (RCTs) to compare three treatments for the old people with osteoporotic vertebral compression fracture. The eligible RCTs were identified by searching Amed, British Nursing Index, Embase, Pubmed, the Cochrane Central Register of Controlled Trials (CENTRAL), Google scholar, SIGLE, the National Technical Information Service, the National Research Register (UK) and the Current Controlled Trials databases. Data from three outcomes (e.g. VAS, risk of all-cause discontinuation and incidence of new fractures) were independently extracted by two authors. Results A total of five RCTs were finally included into this article. PVP and BK significantly decreased VAS when compared with CT. BK had a significantly lower risk of all-cause discontinuation contrast to CT. Three treatments (BK, PVP and CT) had no significant differences in the incidence of new fractures. Conclusions PVP may be the best way to relieve pain, CT might lead to the lowest incidence of new fractures and BK might had the lowest risk of all-cause discontinuation in old people with osteoporotic vertebral compression fracture. More large-scale and longer duration of follow-up studies are needed.

Publication type: Journal: Review
Source: EMBASE
Full text: Available National Library of Medicine at PLoS ONE

11. Title: Comparing intramedullary nailing, external fixation and external fixation followed by Intramedullary Nailing as management for open fractures of the tibial shaft: A systematic review

Citation: International Archives of Medicine, 2015, vol./is. 8/1, 1755-7682 (2015)

Author(s): Neto A.C., Goncalves J., Pinheiro P.P., Neto M.L.R., Oliveira M.P.

Language: English

Abstract: Background: The treatment of open fractures of the tibial shaft is often a dilemma since it requires particular caution and individual assistance for each case. Methods and Findings: Systematic review of the literature was conducted on the following databases: PubMed and VHL from 2000 to 2013 aiming to compare Intramedullary Nailing (IM Nailing), External Fixation (EF), and EF followed by IM Nailing in the treatment of open fractures of the tibial shaft. After analysis by inclusion criteria 24 articles met the eligibility criteria. The healing time was under 32 weeks, and the nonunion and defective healing rates were under 13.35% and 16.6%, respectively. The infection rate ranged from 3% to 53% for patients treated with EF as definitive management; from 0% to 22% for those treated with IM Nailing as definitive management; and from 0% to 16.7% for those who underwent EF followed by IM Nailing. Conclusion: The cases treated with EF as definitive management presented shorter healing time as for the analyzed samples. The nonunion cases with greater percentages were those of EF followed by IM Nailing. The studies using IM Nailing as definitive management presented defective healing. Even though few studies analyze hospital stay, it was found to be shorter in the sample treated with EF as definitive management.

Publication type: Journal: Review
Source: EMBASE
Full text: Available International Archives of Medicine at International Archives of Medicine

12. Title: Comparison of percutaneous vertebroplasty and balloon kyphoplasty for the treatment of single level vertebral compression fractures: A meta-analysis of the literature

Citation: Pain Physician, 2015, vol./is. 18/3(209-221), 1533-3159 (2015)


Language: English

Abstract: Background: Percutaneous vertebroplasty (PVP) and percutaneous balloon kyphoplasty (PKP) can increase bone strength as well as alleviate the pain caused by vertebral compression fractures (VCFs), and both procedures
rely on polymethyl methacrylate (PMMA) cement injected into the fractured vertebra for mechanical stabilization of the VCFs. However, there is debate over which of these 2 surgical procedures can give better short-term and long-term outcomes. A lot of studies and meta-analysis were designed to assess the advantages and drawbacks of PKP and PVP in the treatment of VCFs, but most of them didn’t consider the effect of VCF levels on the treatment outcome, which can influence the results. Objective: To assess the safety and efficacy of PKP compared to PVP in the treatment of single level osteoporotic vertebral compression fractures (OVCF). Study Design: Studies with the following criteria were included: patients with VCFs due to osteoporosis; PKP comparing PVP; study design, RCT or prospective or retrospective comparative studies. Furthermore, the studies which reported at least one of the following outcomes: subjective pain perception, quality of life evaluation, incidence of new adjacent vertebral fracture, bone cement leakage, and post-operative kyphotic angle.Articles were excluded in our meta-analysis if they had a neoplastic etiology (i.e., metastasis or myeloma), infection, neural compression, traumatic fracture, neurological deficit, spinal stenosis, severe degenerative diseases of the spine, previous surgery at the involved vertebral body, and PKP or PVP with other invasive or semi-invasive intervention treatment. Setting: University hospital. Methods: A systematic search of all articles published through May 2014 was performed by Medline, EMBASE, OVID, and other databases. All the articles that compared PKP with PVP on single level OVCF were identified. The evidence quality levels of the selected articles were evaluated by Grade system. Data about the clinical outcomes and complications were extracted and analyzed. Results: Eight studies, encompassing 845 patients, met the inclusion criteria. Overall, the results indicated that there were significant differences between the 2 groups in the short-term visual analog scale (VAS) scores, the long-term Oswestry Disability Index (ODI), short- and long-term kyphosis angle, the kyphosis angle improvement, the injected cement, and the cement leakage rates. However, there were no significant differences in the long-term VAS scores, the short-term ODI scores, the short- and long-term SF-36 scores, or the adjacent-level fracture rates. Limitations: Statistical efficacy can be improved by more studies, low evidence based non-RCT articles are likely to induce various types of bias, no accurate definition of short-term and long-term outcome time points. Conclusion: PKP and PVP are both safe and effective surgical procedures in treating OVCF. PKP has a similar long-term pain relief, function outcome (short-term ODI scores, short-and long-term SF-36 scores), and new adjacent VCFs in comparison to PVP. PKP is superior to PVP for the injected cement volume, the short-term pain relief, the improvement of short- and long-term kyphotic angle, and lower cement leakage rate. However, PKP has a longer operation time and higher material cost than PVP. To confirm this evaluation, a large multi-center randomized controlled trial (RCT) should be conducted.

Publication type: Journal: Article
Source: EMBASE

13. Title: Do patients really gain outcome benefits when using the high-flex knee prostheses in total knee arthroplasty? A meta-analysis of randomized controlled trials
Citation: Journal of Arthroplasty, April 2015, vol./is. 30/4(580-586), 0883-5403;1532-8406 (01 Apr 2015)
Author(s): Li C., Shen B., Yang J., Zhou Z., Kang P., Pei F.
Language: English
Abstract: The purpose of this study was to undertake a meta-analysis to evaluate whether patients really gain outcome benefits when using the high-flex (HF) prostheses in total knee arthroplasty (TKA) compared with standard (STD) implants. Only randomized controlled trials were included in this meta-analysis. After searching PubMed, Embase, Wed of Science and Cochrane Library, 1042 papers were identified and 18 trials were finally eligible for meta-analysis including 2069 knees (1906 patients). We found no statistically significant difference between the two designs in terms of ROM, knee scores (KSS, HSS, WOMAC, and SF-36), patients' satisfaction and complications. Hence there is currently no evidence to confirm that the use of high-flex prostheses in short-term is superior to the standard prostheses after total knee arthroplasty.
Publication type: Journal: Review
Source: EMBASE

14. Title: Effect of topical tranexamic acid in reducing bleeding and transfusions in TKA
Citation: Orthopedics, May 2015, vol./is. 38/5(315-324), 0147-7447;1938-2367 (01 May 2015)
Author(s): Yue C., Pei F., Yang P., Xie J., Kang P.
Language: English
Abstract: Intravenous tranexamic acid (TXA) has been identified to be effective in total knee arthroplasty (TKA), but the effect of topical application is still unclear. Therefore, the authors conducted a meta-analysis to assess the effect of topical TXA in TKA. Twelve trials with a total of 1179 knees were included. The results revealed that the application of topical TXA in TKA significantly reduced total blood loss by a mean of 280.65 mL and reduced transfusions without increasing the risks of deep venous thrombosis and pulmonary embolism. Topical TXA also reduced postoperative
15. **Title:** Grade 3 open tibial shaft fractures treated with a circular frame, functional outcome and systematic review of literature  
**Citation:** Injury, April 2015, vol./is. 46/4(751-758), 0020-1383;1879-0267 (01 Apr 2015)  
**Author(s):** Dickson D.R., Moulder E., Hadland Y., Giannoudis P.V., Sharma H.K.  
**Language:** English  
**Abstract:** We report on the surgical and functional outcome of 22 patients with Grade 3 open tibial fractures treated with circular frame. All cases united and there were no re-fractures or amputations. All patients were assessed at a minimum of 1-year post frame removal. Assessment included clinical examination, IOWA ankle and knee scores, Olerud and Molander ankle score and EuroQol EQ-5D. Clinical scores were either good or excellent in over half of the patients in all knee and ankle scores. There was a significant positive correlation between functional outcomes and the EQ-5D score. The EQ-5D mean health state visual analogue score was comparable to the general UK population despite patients scoring less than the average UK population in three of the five domains. 36% reported some difficulties in walking and 41% had problems with pain. 14% had difficulties with self-care and 46% had difficulties with their usual activities. 14% had problems with anxiety or depression. Systematic review of the literature suggests, in the management of open tibial fractures, circular frames provide equivalent or superior surgical outcomes in comparison with other techniques. Our study finds the application of a circular frame also results in a good functional outcome in the majority of cases.  
**Publication type:** Journal: Article  
**Source:** EMBASE

16. **Title:** How much arthritis is too much for hip arthroscopy: A systematic review  
**Citation:** Arthroscopy - Journal of Arthroscopic and Related Surgery, March 2015, vol./is. 31/3(520-529), 0749-8063;1526-3231 (01 Mar 2015)  
**Author(s):** Domb B.G., Gui C., Lodhia P.  
**Language:** English  
**Abstract:** Purpose The purpose of this study was to determine the extent of preoperative osteoarthritis (OA) that precludes benefit from hip arthroscopy by systematically reviewing the literature on hip arthroscopy in the setting of OA. Methods We searched the Medline and PubMed databases using the following Medical Subject Heading terms: arthritis, osteoarthritis, chondral damage, chondral injury, chondral delamination, and hip arthroscopy. Two authors independently reviewed the literature and included articles if they were in the English language; commented on preoperative factors, parameters, physical examination, or diagnostic testing that may be evidence of cartilage damage and/or arthritis; contained outcome data on patients undergoing hip arthroscopy; and had a sample size of at least 10 patients with arthritic changes in the hip. We excluded review articles, technique articles, articles with overlapping patient populations, articles with hip arthroscopy used as an adjunct to an open procedure, articles with inflammatory and septic arthritis, and articles with a mean age younger than 18 years. Results Our search identified 518 articles, of which 15 met the inclusion and exclusion criteria. Two thousand fifty-one hips underwent arthroscopy at a mean patient age of 40.2 years. Of these, 1,195 hips had signs of OA. There were 345 conversions to total hip arthroplasty/surface replacement arthroplasty. Of these patients, 274 had OA. Eight patient-reported outcome instruments were used. Factors influencing outcomes were preoperative OA, age, chondral damage, femorocacetabular impingement, and duration of symptoms. Conclusions Current evidence is insufficient to define a cutoff for how much arthritis is too much for hip arthroscopy. However, this analysis shows that patients with a Tonnis grade of 1 or greater or a joint space of 2 mm or less are less likely to benefit from hip arthroscopy and more likely to require conversion to total hip arthroplasty/surface replacement arthroplasty. Postoperative scores on patient-reported outcome instruments are lower in the arthritic population at follow-up compared with their nonarthritic counterparts. Level of Evidence Level IV, systematic review of Level III and IV studies.  
**Publication type:** Journal: Review  
**Source:** EMBASE

17. **Title:** Incidence of adjacent segment degeneration in cervical disc arthroplasty versus anterior cervical
Abstract: Purpose: To evaluate the incidence of adjacent segment disease (ASD) requiring surgical intervention between anterior cervical decompression and fusion (ACDF) and total disc replacement (TDR). Background: The concern for ASD has led to the development of motion-preserving technologies such as TDR. However, whether replacement arthroplasty in the spine achieves its primary patient-centered objective of lowering the frequency of adjacent segment degeneration is not verified yet. Methods: A comprehensive literature search was performed using PubMed, Cochrane Central Register of Controlled Trials and Embase. These databases were thoroughly searched for prospective randomized studies comparing ACDF and TDR. Eight studies met the inclusion criteria for a meta-analysis and were used to report an overall rate of ASD for both ACDF and TDR. Results: Pooling data from 8 prospective studies, the overall sample size at baseline was 1,726 patients (889 in the TDR group and 837 in the ACDF group). The ACDF group had significantly more ASDs compared with the TDR group at 24 months postoperatively [odds ratios (OR), 1.31; 95% confidence interval (CI), 1.04-1.64; p = 0.02]. The TDR group had significantly fewer adjacent segment reoperations compared with the ACDF group at 24 months postoperatively (OR, 0.49; 95% CI, 0.25-0.96; p = 0.04). Conclusions: For patients with one-level cervical degenerative disc disease (CDDD), total disc replacement was found to have significantly fewer ASDs and reoperations compared with the ACDF. Cervical replacement arthroplasty may be superior to ACDF in ASD. Therefore, cervical arthroplasty is a safe and effective surgical procedure for treating CDDD. We suggest adopting TDR on a large scale.

Publication type: Journal: Article
Source: EMBASE
20. Title: Interventions for treating displaced midshaft clavicular fractures: a Bayesian network meta-analysis of randomized controlled trials

Abstract: Displaced midshaft clavicular fractures are frequent injuries. There are 3 treatment methods including conservative treatment, plate fixation, and intramedullary pin fixation. However, which is the best treatment remains a topic of debate. To establish the optimum treatment for displaced midshaft clavicular fractures, we did a network meta-analysis to compare 3 treatments in terms of postoperative nonunion and infection. We searched PubMed, the Cochrane Library, and Embase for relevant randomized controlled trials (RCTs) until the end of October 2014. Two investigators independently reviewed the abstract and full text of eligible studies and extracted information. We used WinBUGS 1.4 (Imperial College School of Medicine at St Mary's, London) to perform our Bayesian network meta-analysis. We used the graphical tools in STATA12 (StataCorp, Texas) to present the results of statistical analyses of WinBUGS14. Nonunion and infection were presented as odd ratios (ORs) with 95% confidence intervals (CIs). We also presented the results using surface under the cumulative ranking curve (SUCRA). A higher SUCRA value suggests better results for respective treatment method. Thirteen RCTs were included in our network meta-analysis, with a total of 894 patients randomized to receive 1 of 3 treatments. Nonunion rates were 0.9%, 2.4%, and 11.4% for intramedullary pin fixation, plate fixation, and conservative method, respectively. Nonunion occurred more commonly in patients treated with conservative method than in patients treated with either plate fixation (OR: 0.18; 95% CI: 0.05-0.46) or intramedullary pin fixation (OR: 0.12; 95% CI: 0.01-0.50). There was no significant difference between plate and intramedullary pin fixation in nonunion (OR: 3.64; 95% CI: 0.31-17.27). Furthermore, SUCRA probabilities were 87.8%, 62.0%, and 0.2% for intramedullary pin fixation, plate fixation, and conservative method, respectively. Infection rates were 3.6% and 3.9% for intramedullary pin fixation and plate fixation, respectively. There was no significant difference between plate and intramedullary pin fixation in infection (OR: 3.64; 95% CI: 0.31-17.27). SUCRA probabilities were 46.5% and 8.5% for intramedullary pin and plate fixation, respectively. Our network meta-analysis suggested that intramedullary pin fixation is the optimum treatment method for displaced midshaft clavicle fracture because of the low probabilities of nonunion and infection.

Publication type: Journal: Article
Source: EMBASE

21. Title: Intramedullary nail versus plate fixation for humeral shaft fractures: a systematic review of overlapping meta-analyses

Abstract: Multiple meta-analyses have been published to compare intramedullary nail and plate for treating humeral fractures. We present the largest series of patients with concomitant hip and wrist fractures. We perform the first meta-analysis of the literature on patients with concurrent hip and wrist fractures. Material and methods: In this single-centre retrospective study we compared 88 consecutive patients with simultaneous hip and wrist fractures with 772 consecutive patients who suffered isolated hip fractures. Results: Patients with the combined fracture were of a similar age compared to those with isolated hip fracture. There were a significantly higher proportion of women in the cohort with both hip and wrist fractures (female:Male ratio of 9:1 versus 4:1 p < 0.0001). The combination fracture group had a greater length of hospitalisation (18 vs 13 days p < 0.0001). The survivorship of both groups was not significantly different even after adjustment for age and gender. Meta-analysis of the literature showed female preponderance, increased length of stay but no significant difference in survival in patients with concomitant hip and wrist fractures. Conclusion: The combination fracture occurs much more commonly in women and patients require a greater length of hospitalisation. The patients who sustained simultaneous hip and wrist fractures experienced no statistically significant difference in survivorship when compared to those who suffer isolated hip fractures. This is not withstanding the presence of two fractures. This difference in mortality did not reach statistical significance. Level of evidence: Level III (retrospective comparative study).

Publication type: Journal: Article
Source: EMBASE

Citation: Medicine, March 2015, vol./is. 94/11(e599), 1536-5964 (01 Mar 2015)
Author(s): Zhao J.-G., Wang J., Wang C., Kan S.-L.
Language: English

Abstract: We performed a meta-analysis to compare 3 treatments in terms of postoperative nonunion and infection. We searched PubMed, the Cochrane Library, and Embase for relevant randomized controlled trials (RCTs) until the end of October 2014. Two investigators independently reviewed the abstract and full text of eligible studies and extracted information. We used WinBUGS 1.4 (Imperial College School of Medicine at St Mary's, London) to perform our Bayesian network meta-analysis. We used the graphical tools in STATA12 (StataCorp, Texas) to present the results of statistical analyses of WinBUGS14. Nonunion and infection were presented as odd ratios (ORs) with 95% confidence intervals (CIs). We also presented the results using surface under the cumulative ranking curve (SUCRA). A higher SUCRA value suggests better results for respective treatment method. Thirteen RCTs were included in our network meta-analysis, with a total of 894 patients randomized to receive 1 of 3 treatments. Nonunion rates were 0.9%, 2.4%, and 11.4% for intramedullary pin fixation, plate fixation, and conservative method, respectively. Nonunion occurred more commonly in patients treated with conservative method than in patients treated with either plate fixation (OR: 0.18; 95% CI: 0.05-0.46) or intramedullary pin fixation (OR: 0.12; 95% CI: 0.01-0.50). There was no significant difference between plate and intramedullary pin fixation in nonunion (OR: 3.64; 95% CI: 0.31-17.27). Furthermore, SUCRA probabilities were 87.8%, 62.0%, and 0.2% for intramedullary pin fixation, plate fixation, and conservative method, respectively. Infection rates were 3.6% and 3.9% for intramedullary pin fixation and plate fixation, respectively. There was no significant difference between plate and intramedullary pin fixation in infection (OR: 3.64; 95% CI: 0.31-17.27). SUCRA probabilities were 46.5% and 8.5% for intramedullary pin and plate fixation, respectively. Our network meta-analysis suggested that intramedullary pin fixation is the optimum treatment method for displaced midshaft clavicle fracture because of the low probabilities of nonunion and infection.

Publication type: Journal: Article
Source: EMBASE
The present study. Two Google Scholar databases from 1966 to December 2013. Only randomized controlled trials (RCTs) were included in TKA. Methods: We searched the PubMed, Medline, Embase, Cochrane Central Register of Controlled Trials, and Google Scholar databases from 1966 to December 2013. Only randomized controlled trials (RCTs) were included in the present study. Two independent reviewers identified the eligible studies, assessed their methodological quality,
and extracted data. The data were using fixed-effects or random-effects models with standard mean differences and risk ratios for continuous and dichotomous variables, respectively. Subgroup analysis was performed according to the IV or intraarticular administration of TXA. Results: Thirty-four RCTs encompassing 2,594 patients met the inclusion criteria for our meta-analysis. Our meta-analysis indicated that when compared with the control group, the IV or intraarticular use of TXA significantly reduced total blood loss, postoperative blood loss, Hb loss, and transfusion rate as well as blood units transfused per patient after primary TKA, but did not reduce intraoperative blood loss. No significant difference in deep vein thrombosis (DVT), pulmonary embolism, or other adverse events among the study groups. Conclusions: IV or intraarticular use of TXA for patients undergoing TKA is effective and safe for the reduction blood loss and blood transfusion requirements, yet does not increase the risk of postoperative DVT. Level of evidence: Level II.

**Publication type:** Journal: Article  
**Source:** EMBASE

24. **Title:** Lack of efficacy of prophylactic application of antibiotic-loaded bone cement for prevention of infection in primary total knee arthroplasty: Results of a meta-analysis  
**Citation:** Surgical Infections, April 2015, vol./is. 16/2(183-187), 1096-2964;1557-8674 (01 Apr 2015)  
**Author(s):** Zhou Y., Li L., Zhou Q., Yuan S., Wu Y., Zhao H., Wu H.  
**Language:** English  
**Abstract:** Background: Deep incisional surgical site infection (SSI) is a devastating and costly complication of primary total knee arthroplasty (TKA). The effectiveness of antibiotic-loaded bone cement (ALBC) in preventing these infections remains controversial. Methods: A meta-analysis was conducted to assess the efficacy of ALBC in preventing deep infection in primary TKA after a detailed and systematic search of the PubMed, Embase, CNKI, and Cochrane databases had been performed to identify appropriate comparative trials on the prophylactic use of ALBC in primary TKA. Results: Five comparative trials were included. In total, 3,461 patients (ALBC group) received ALBC, whereas 3,176 patients (non-antibiotic-loaded cement; NALBC group) did not. The incidence of deep incisional SSI in the ALBC group was 1.32% (n=46) whereas the incidence in the NALBC group was 1.89% (n=60), figures which are not significantly different. No adverse events associated with ALBC were reported in any studies. Conclusion: Statistical analysis did not reveal a significantly different incidence of deep or superficial SSI in patients receiving and not receiving antibiotic-loaded cement. The prophylactic application of ALBC thus did not show efficacy in primary TKA. More large-sample studies are required to confirm this finding.  
**Publication type:** Journal: Article  
**Source:** EMBASE

25. **Title:** Large fresh osteochondral allografts of the knee: A systematic clinical and basic science review of the literature  
**Citation:** Arthroscopy - Journal of Arthroscopic and Related Surgery, April 2015, vol./is. 31/4(757-765), 0749-8063;1526-3231 (01 Apr 2015)  
**Author(s):** De Caro F., Bisicchia S., Amendola A., Ding L.  
**Language:** English  
**Abstract:** Purpose The aim of this study was to conduct an updated review of the literature regarding the clinical and basic science knowledge on osteochondral allograft transplantation in the knee for the treatment of large defects. Methods According to specific criteria, 2 investigators systematically reviewed the literature for clinical and basic science reports regarding osteochondral allograft transplantation; data were independently extracted, pooled, and analyzed. Clinical and functional outcomes, International Knee Documentation Committee and Western Ontario and McMaster Universities Osteoarthritis Index scores, return to sport, quality of life, and survivorship of the grafts were assessed from the clinical articles. Regarding the basic science articles, the effects of allograft storage time, temperature, and different storage media were assessed. Results Eleven articles reporting on clinical data and 14 articles reporting on basic science data (animal, cell, and biomechanical studies) were selected. The articles included in the review were not homogeneous, and different outcome measures were adopted. Overall excellent results were achieved, with improvement in all objective and subjective clinical scores, a high rate of return to sport, and a survivorship rate of 89% at 5 years. When multiple plugs were implanted, posterior grafts seemed to fail. Only 1 article compared fresh versus frozen grafts, with a greater improvement in scores in the frozen group. Cellular viability and number were reduced during storage, even at low temperatures; polyphenol from green tea and arbutin and higher temperatures favorably influenced cell viability of the cartilage during storage. On the other hand, the structural properties of the extracellular matrix were not influenced by the storage at low temperatures. Integration of the graft to the host was also important, and bony integration was usually achieved; however, on the cartilage side, integration was scant or did not occur, especially in the frozen grafts. Conclusions Fresh osteochondral
allografts of the knee showed good clinical and functional outcomes even at longer-term follow-up. No other effective treatment exists, at the moment, for large osteochondral lesions. This surgical procedure is burdened by cost and difficulty in finding matching fresh donors. A new method to establish chondrocyte viability before the implantation of a new allograft would be a useful decision-making instrument. Level of Evidence Level IV, systematic review of Level IV studies.

**Publication type:** Journal: Review

**Source:** EMBASE

---

26. **Title:** Lesser tuberosity osteotomy versus soft-tissue subscapularis release in Shoulder arthroplasty: A systematic review

**Citation:** Techniques in Shoulder and Elbow Surgery, May 2015, vol./is. 16/2(47-51), 1523-9896;1539-591X (15 May 2015)

**Author(s):** Cagle P.J., Patton J.G., Beck R.T., Braman J.

**Language:** English

**Abstract:** Shoulder arthroplasty procedures continued to increase in prevalence, and controversy still remains about the optimal method to manage the subscapularis. Our study reviewed the available literature clinically comparing subscapularis approaches. A systematic review was conducted using MEDLINE, PubMed, and Cochrane Central Register of Controlled Trials. All clinical trials were identified, and trials comparing at least 2 different subscapularis approaches were examined. Six clinical trials were identified comparing lesser tuberosity osteotomy, subscapularis tenotomy, and peel. Two were randomized-controlled trials comparing osteotomy and peel. Both trials demonstrated improvements in both the groups without demonstrating a significant advantage to either approach. Four trials retrospective analyzed subscapularis osteotomy compared with tenotomy. These trials demonstrate a tendency for improved clinical function with subscapularis osteotomy when patients perform a belly-press test or shirt tuck. Level I and II studies have not shown a significant difference between soft-tissue and bony subscapularis approach with shoulder arthroplasty, but retrospective studies have suggested improved clinical outcomes with osteotomy.

**Publication type:** Journal: Article

**Source:** EMBASE

---

27. **Title:** Minimum 4-year outcomes of cervical total disc arthroplasty versus fusion

**Citation:** Medicine (United States), April 2015, vol./is. 94/15, 0025-7974;1536-5964 (06 Apr 2015)


**Language:** English

**Abstract:** The prevalence of cervical disc disease is high, and the traditional surgical method of anterior cervical disectomy and fusion (ACDF) carries with it the disadvantages of motion loss at the operated level, and accelerated adjacent level disc degeneration. Preliminary results of the efficacy and reoperative rate comparing TDA versus ACDF have been reported; however, the long-term outcomes of TDA versus ACDF still remain a topic of debate. This review was prepared following the standard procedures set forth by the Cochrane Collaboration organization, and preferred reporting items for systematic reviews and meta-analyses (PRISMA). The only studies included were randomized controlled trials with a minimum of 4 years of follow-up data. The meta-analysis included the neck disability index (NDI), visual analog scale (VAS) of neck and arm pain, SF-36 physical component scores (SF-36 PCS), over success, neurological success, work status, implant-related complications, and secondary surgery events. Four randomized controlled trials meet the inclusion criteria. The long-term improvement of NDI, VAS of neck and arm pain, SF-36 PCS, over success, and neurological success favored the TDA group. The TDA group also had a lower incidence of secondary surgery for both the index level (RR: 0.45 [0.28, 0.72]) and adjacent level (RR: 0.53 [0.33, 0.88]). In this meta-analysis of 4 included RCTs with a minimum 4 years of follow-ups, total disc arthroplasty showed improvements over ACDF as measured by the NDI, VAS of neck and arm pain, and SF-36 PCS.

**Publication type:** Journal: Review

**Source:** EMBASE

---

28. **Title:** No clinical benefit of high-flex total knee arthroplasty: A meta-analysis of randomized controlled trials

**Citation:** Journal of Arthroplasty, April 2015, vol./is. 30/4(573-579), 0883-5403;1532-8406 (01 Apr 2015)

**Author(s):** Fu H., Wang J., Zhang W., Cheng T., Zhang X.

**Language:** English

**Abstract:** The application of high-flex prosthesis in total knee arthroplasty (TKA) is an area of continuing debate. Thus, we conducted a meta-analysis of randomized controlled trials (RCTs). A literature search was performed in PubMed, EMBASE and the Cochrane database. 10 trials involving 1230 knee joints were eligible for our meta-
analysis. No significant difference was observed between the two designs regarding postoperative range of flexion, clinical scores, quality of life outcomes, or complication rate. Moreover, the advantage of high-flex implants for patients with high preoperative range remained not statistically significant and high-flex design in NexGen system showed a marginal improvement in the postoperative range of flexion. Based on current findings, high-flex prosthesis did not appear to confer any benefit as compared to standard prosthesis.

**Publication type:** Journal: Article

**Source:** EMBASE

**29. Title:** One step closer to sparing total blood loss and transfusion rate in total knee arthroplasty: a meta-analysis of different methods of tranexamic acid administration

**Citation:** Archives of Orthopaedic and Trauma Surgery, 2015, vol./is. 135/4(573-588), 0936-8051;1434-3916 (2015)

**Author(s):** Shemshaki H., Nourian S.M.A., Nourian N., Dehghani M., Mokhtari M., Mazoochian F.

**Language:** English

**Abstract:** Background: Tranexamic acid (TXA) in orthopedics has recently been gaining favor due to its efficacy and ease of use, both in intravenous (IV) and intraarticular (IA) usage. However, because of safety concerns with IV administration, there has been a growing interest in the IA use of TXA to prevent bleeding. Materials and methods: This study conducted a systematic review and meta-analysis that included 31 randomized, controlled trials in which the effect of systemic and topical TXA on total blood loss (TBL), rates of transfusion, and thromboembolic events was investigated. Results: Compared to the control, the IA administration of TXA led to the significant reduction of mean TBL (p < 0.001), rate of transfusion (p < 0.001), and reduction of rate of thromboembolic events (p = 0.29). Compared to the control group, the IV administration of TXA resulted in significant reduction of mean TBL (p < 0.001), rate of transfusion (p < 0.001), and rate of thromboembolic events (p = 0.66). Although no significant differences in efficacy and safety between the IA and IV administration of TXA were found, the IA method was safer than the IV method in that it reduced rate of transfusion and thromboembolic events. Conclusion: This study showed that TXA leads to significant reductions in TBL and the rate of allogeneic transfusions. Generally, no significant difference was detected between IA and IV administration of TXA; however, more studies with focus on safety and efficacy are warranted.

**Publication type:** Journal: Article

**Source:** EMBASE

**30. Title:** Open reduction and closed reduction internal fixation in treatment of femoral neck fractures: A meta-analysis

**Citation:** BMC Musculoskeletal Disorders, May 2015, vol./is. 15/1, 1471-2474 (22 May 2014)

**Author(s):** Wang W., Wei J., Xu Z., Zhuo W., Zhang Y., Rong H., Cao X., Wang P.

**Language:** English

**Abstract:** Background: A meta-analysis was performed to assess the association between healing rate, avascular necrosis (AVN) of femoral head and two reductions-open reduction internal fixation (ORIF) and closed reduction internal fixation (CRIF) for femoral neck fracture. Methods: A literature-based search was conducted to identify all relevant studies published before September 10, 2013. The odd ratio (OR) and 95% confidence interval (CI) were used for estimating the effects of the two reduction methods. Data were independently extracted by two investigators who reached a consensus on all of the items. The heterogeneity between studies was examined by chi<sup>2</sup>-based Q statistic. Egger's regression analysis was used to evaluate publication bias. Statistical analysis was performed by Stata 10.0 software. Results: We examined 14 publications. The results of the present meta-analysis showed that AVN of femoral head were significant associated with the two reductions (CRIF vs. ORIF, OR = 1.746, 95% CI 1.159-2.628, p = 0.008), while the healing rate were not (CRIF vs. ORIF, OR = 0.853, 95% CI 0.573-1.270, p = 0.433). Conclusion: The present meta-analysis indicated the risk of AVN of femoral head was significant higher after CRIF fixation compared with ORIF, but no association between the healing rate and the two reductions for femoral neck fracture.

**Publication type:** Journal: Article

**Source:** EMBASE

**Full text:** Available National Library of Medicine at BMC Musculoskeletal Disorders

**31. Title:** Outcomes after primary open or endoscopic abductor tendon repair in the hip: A systematic review of the literature

**Citation:** Arthroscopy - Journal of Arthroscopic and Related Surgery, March 2015, vol./is. 31/3(530-540), 0749-8063;1526-3231 (01 Mar 2015)

**Author(s):** Alpaugh K., Chilelli B.J., Xu S., Martin S.D.
Abstract: Purpose The purpose of this study was to systematically appraise the evidence on primary open and endoscopic abductor tendon repair. Methods A systematic review of the literature was performed to (1) identify the demographic undergoing abductor tendon repair, (2) summarize the overall outcomes after primary surgical abductor tendon repair, (3) identify the type of tear most commonly encountered intraoperatively, (4) summarize the repair methods used, and (5) identify the published complication and tendon retear rates. Results A total of 8 articles were identified as eligible for inclusion. All studies were Level IV Evidence. Of the patients undergoing surgical repair, 90% were women. As assessed by a variety of outcome measures, most patients reported good to excellent functional outcomes and pain reduction after open or endoscopic repair. Intraoperatively, tears of the gluteus medius and partial-thickness tears were encountered most often. Tears involving both the gluteus medius and minimus occurred 29% of the time. Complication rates were low for both the open and endoscopic approaches. No tendon retears were documented after endoscopic repair, whereas the retear rate after open repair was 9%. Conclusions Patients undergoing surgical repair for partial- and full-thickness tears are mostly women. Intraoperatively, tears almost always include the gluteus medius, with concomitant tearing of the gluteus minimus in approximately one-third of cases. Both open and endoscopic techniques are viable surgical approaches to repairing abductor tendon tears in the hip that produce good to excellent functional results and reduce pain; however, endoscopic repair appears to result in fewer postoperative complications including tendon retear. Level of Evidence IV, systematic review of Level IV studies.

Source: EMBASE

32. Title: Outcomes of talar neck fractures: A systematic review and meta-analysis
Citation: Journal of Orthopaedic Trauma, May 2015, vol./is. 29/5(210-215), 0890-5339;1531-2291 (22 May 2015)
Author(s): Dodd A., Lefaivre K.A.
Language: English
Abstract: Objectives: To report the rates of osteonecrosis and subtalar arthritis after talar neck fractures and to examine if rates have changed over time. Data Sources: A systematic review and meta-analysis of the English literature was performed using EMBASE, MEDLINE, CENTRAL, and Cochrane in November 2011 and updated in November 2014. Study Selection: Inclusion criteria were studies examining talar neck fractures that reported talar body osteonecrosis rates as a primary or secondary outcome. Exclusion criteria included case series with <10 patients or >50% pediatric patients, inability to isolate results of talar neck fractures, primary treatment of talar excision or arthrodesis, mean follow-up of <3 months, and non-English literature. Data Extraction: Basic information was collected including journal, author, year published, level of evidence, number of fractures, and follow-up length. Specific information collected included fracture classifications, timing of interventions, method of treatment, osteonecrosis rates, subtalar arthrosis rates, and method of diagnosis of osteonecrosis. Data Synthesis: Fixed-effects models were used for meta-analysis. The overall event rate of osteonecrosis was calculated and stratified based on Hawkins classification of the talar neck fractures. Mean rates of subtalar arthritis were calculated for all studies and for studies including >2 years of follow-up. Conclusions: The overall rate of osteonecrosis was 0.312. Rates for Hawkins’ types I-IV were 0.098, 0.274, 0.534, and 0.480, respectively. The mean rate of subtalar arthritis was 0.49 but increased to 0.81 in studies with >2 years of follow-up. Complication rates are high in talar neck fractures, and patients should be counseled accordingly.

Source: EMBASE

Full text: Available Journal of Orthopaedic Trauma at Journal of Orthopaedic Trauma

33. Title: Patient-specific instrumentation does not improve accuracy in total knee arthroplasty
Citation: Orthopedics, March 2015, vol./is. 38/3(e178-e188), 0147-7447;1938-2367 (01 Mar 2015)
Author(s): Shen C., Tang Z.-H., Hu J.-Z.U., Zou G.-Y., Xiao R.-C., Yan D.-X.
Language: English
Abstract: Patient-specific instrumentation (PSI) has been introduced as a tool to increase the accuracy of total knee arthroplasty (TKA) compared with conventional instrumentation (CLI). However, previous studies have shown inconsistent results. The authors conducted a meta-analysis to compare the performance of PSI to CLI in TKA. PubMed, EMBASE, and Cochrane Central Register of Controlled Trials electronic databases were systematically searched to identify eligible trials published between 2000 and March 2014. Two reviewers independently assessed methodological quality according to the Cochrane Handbook. Subgroup analyses were performed based on the different study designs (randomized, controlled trial [RCT] vs non-randomized, controlled trial [non-RCT]), preoperative magnetic resonance imaging vs computed tomography, and systems of PSI to explore the source of
heterogeneity. Fourteen studies (7 RCTs and 7 non-RCTs) involving 1906 patients were included. There were no statistical differences with respect to the outliers of mechanical axis, coronal femoral component, sagittal femoral component, femoral component rotation, operative time, blood loss, and length of hospital stay between PSI and CLI groups. The number of outliers in coronal tibial components (odds ratio, 2.29; 95% confidence interval, 1.20 to 4.35; \( P = .01 \)) and sagittal tibial components (odds ratio, 1.67; 95% confidence interval, 1.16 to 2.42; \( P < .01 \)) was significantly lower in the CLI group than in the PSI group. Based on the numbers available, the use of PSI compared with CLI was not likely to improve the accuracy of component alignment and treatment effects of TKA. Further high-quality RCTs are warranted to confirm the authors’ results.

**Publication type:** Journal: Article

**Source:** EMBASE

34. **Title:** Predictors of persistent pain after total knee arthroplasty: A systematic review and meta-analysis

**Citation:** British Journal of Anaesthesia, April 2015, vol./is. 114/4(551-561), 0007-0912;1471-6771 (01 Apr 2015)

**Author(s):** Lewis G.N., Rice D.A., McNair P.J., Kluger M.

**Language:** English

**Abstract:** Background Several studies have identified clinical, psychosocial, patient characteristic, and perioperative variables that are associated with persistent postsurgical pain; however, the relative effect of these variables has yet to be quantified. The aim of the study was to provide a systematic review and meta-analysis of predictor variables associated with persistent pain after total knee arthroplasty (TKA). Methods Included studies were required to measure predictor variables prior to or at the time of surgery, include a pain outcome measure at least 3 months post-TKA, and include a statistical analysis of the effect of the predictor variable(s) on the outcome measure. Counts were undertaken of the number of times each predictor was analysed and the number of times it was found to have a significant relationship with persistent pain. Separate meta-analyses were performed to determine the effect size of each predictor on persistent pain. Outcomes from studies implementing uni- and multivariable statistical models were analysed separately. Results Thirty-two studies involving almost 30 000 patients were included in the review. Preoperative pain was the predictor that most commonly demonstrated a significant relationship with persistent pain across uni- and multivariable analyses. In the meta-analyses of data from univariate models, the largest effect sizes were found for: other pain sites, catastrophizing, and depression. For data from multivariate models, significant effects were evident for: catastrophizing, preoperative pain, mental health, and comorbidities. Conclusions Catastrophizing, mental health, preoperative knee pain, and pain at other sites are the strongest independent predictors of persistent pain after TKA.

**Publication type:** Journal: Review

**Source:** EMBASE

35. **Title:** Setting benchmark revision rates for total hip replacement: Analysis of registry evidence

**Citation:** BMJ (Online), March 2015, vol./is. 350/, 0959-8146;1756-1833 (09 Mar 2015)

**Author(s):** Kandala N.-B., Connock M., Pulikottil-Jacob R., Sutcliffe P., Crowther M.J., Grove A., Mistry H., Clarke A.

**Language:** English

**Abstract:** Objective: To compare 10 year revision rates for frequently used types of primary total hip replacement to inform setting of a new benchmark rate in England and Wales that will be of international relevance. Design: Retrospective cohort study. Setting: National Joint Registry. Participants: 239 000 patient records. Main outcome measures: Revision rates for five frequently used types of total hip replacement that differed according to bearing surface and fixation mode, encompassing 62% of all primary total hip replacements in the National Joint Registry for England and Wales. Revision rates were compared using Kaplan-Meier and competing risks analyses, and five and 10 year rates were estimated using well fitting parametric models. Results: Estimated revision rates at 10 years were 4% or below for four of the five types of total hip replacement investigated. Rates differed little according to Kaplan-Meier or competing risks analysis, but differences between prosthesis types were more substantial. Cemented prostheses with ceramic-on-polyethylene bearing surfaces had the lowest revision rates (1.88-2.11% at 10 years depending on the method used), and cementless prostheses with ceramic-on-ceramic bearing surfaces had the highest revision rates (3.93-4.33%). Men were more likely to receive revision of total hip replacement than were women, and this difference was statistically significant for four of the five prosthesis types. Conclusions: Ten year revision rate estimates were all less than 5%, and in some instances considerably less. The results suggest that the current revision rate benchmark should be at least halved from 10% to less than 5% at 10 years. This has implications for benchmarks internationally.

**Publication type:** Journal: Article

**Source:** EMBASE

**Full text:** Available BMJ (Clinical research ed.) at The BMJ
36. Title: Similar outcome after retention or sacrifice of the posterior cruciate ligament in total knee arthroplasty: A systematic review and meta-analysis

Citation: Acta Orthopaedica, April 2015, vol./is. 86/2(195-201), 1745-3674;1745-3682 (01 Apr 2015)

Author(s): Verra W.C., Van Den Boom L.G.H., Jacobs W.C.H., Schoones J.W., Wymenga A.B., Nelissen R.G.H.H.

Language: English

Abstract: Background and purpose - To retain or to sacrifice the posterior cruciate ligament (PCL) in total knee arthroplasty (TKA) remains a matter of discussion. In this systematic review, we wanted to find differences in functional and clinical outcome between the 2 methods. Methods - We conducted a systematic review and meta-analysis including all randomized controlled trials (RCTs) and quasi-RCTs that have compared PCL retention with PCL sacrifice in TKA with a minimum of 1-year follow-up. Primary outcome was range of motion. Secondary outcomes were knee pain and clinical scoring systems that were preferably validated. Quality of evidence was graded using the GRADE approach. All outcomes available for data pooling were used for meta-analysis. Results - 20 studies involving 1,877 patients and 2,347 knees were included. In meta-analysis, the postoperative flexion angle had a mean difference of 2 degrees (95% CI: 0.23-4.0; p = 0.03) and the KSS functional score was 2.4 points higher in favor of PCL sacrifice (95% CI: 0.41-4.3; p = 0.02). There were no statistically significant differences regarding other measured clinical outcomes such as WOMAC, KSS pain, clinical and overall score, HSS score, SF-12, radiolucencies, femoro-tibial angle, and tibial slope. The quality of the studies varied considerably. Risk of bias in most studies was unclear; 5 were judged to have a low risk of bias and 5 to have a high risk of bias. Interpretation - We found no clinically relevant differences between retention and sacrifice of the PCL in TKA, in terms of functional and clinical outcomes. The quality of the studies ranged from moderate to low. Based on the current evidence, no recommendation can be made as to whether to retain or to sacrifice the PCL.

Publication type: Journal: Review

Source: EMBASE

Full text: Available National Library of Medicine at Acta Orthopaedica

37. Title: Smoking and risk of prosthesis-related complications after total hip arthroplasty: A meta-analysis of cohort studies

Citation: PLoS ONE, April 2015, vol./is. 10/4, 1932-6203 (24 Apr 2015)

Author(s): Teng S., Yi C., Krettek C., Jagodzinski M.

Language: English

Abstract: Objective: Increasing evidence suggests that smoking may increase the incidence of prosthesis-related complications after total hip arthroplasty (THA). We performed a meta-analysis of cohort studies to quantitatively evaluate the association between smoking and the risk of prosthesis-related complications after THA. Methods: Relevant articles published before August 15, 2014, were identified by searching the PubMed, EMBASE and Cochrane library databases. Pooled risk ratios (RRs) or weighted mean differences (WMDs) with 95% confidence intervals (CIs) were calculated with either a fixed- or random-effects model. Results: Six cohort studies, involving a total of 8181 participants, were included in the meta-analysis. Compared with the patients who never smoked, smokers had a significantly increased risk of aseptic loosening of prosthesis (summary RR=3.05, 95% CI: 1.42-6.58), deep infection (summary RR=3.71, 95% CI: 1.86-7.41) and all-cause revisions (summary RR=2.58, 95% CI: 1.27-5.22). However, no significant difference in the risk of implant dislocation (summary RR=1.27, 95% CI: 0.77-2.10) or length of hospital stay (WMD=0.0.03, 95% CI: -0.65-0.72) was found between smokers and nonsmokers. Conclusions: Smoking is associated with a significantly increased risk of aseptic loosening of prosthesis, deep infection and all-cause revisions after THA, but smoking is not correlated with a risk of implant dislocation or the length of hospital stay after surgery.

Publication type: Journal: Article

Source: EMBASE

Full text: Available National Library of Medicine at PLoS ONE

38. Title: Special tests for assessing meniscal tears within the knee: A systematic review and meta-analysis

Citation: Evidence-Based Medicine, June 2015, vol./is. 20/3(88-97), 1356-5524;1473-6810 (01 Jun 2015)

Author(s): Smith B.E., Thacker D., Crewesmith A., Hall M.

Language: English

Abstract: Background: Musculoskeletal knee pain is a large and costly problem, and meniscal tears make up a large proportion of diagnoses. 'Special tests' to diagnose torn menisci are often used in the physical examination of the knee joint. A large number of publications within the literature have investigated the diagnostic accuracy of these tests, yet despite the wealth of research their diagnostic accuracy remains unclear. Aim: To synthesise the most current literature on the diagnostic accuracy of special tests for meniscal tears of the knee in adults. Method: An
Pigmented villonodular synovitis (PVNS) is a rare proliferative process of the synovium which most commonly affects the knee and occurs in either a localised (LPVNS) or a diffuse form (DPVNS). The effect of different methods of surgical synovectomy and adjuvant radiotherapy on the rate of recurrence is unclear. We conducted a systematic review and identified 35 observational studies in English which reported the use of surgical synovectomy to treat PVNS of the knee. A meta-analysis included 630 patients, 137 (21.8%) of whom had a recurrence after synovectomy. For patients with DPVNS, low-quality evidence found that the rate of recurrence was reduced by both open synovectomy (odds ratio (OR) = 0.47; 95% CI 0.25 to 0.90; p = 0.024) and combined open and arthroscopic synovectomy (OR = 0.19, 95% CI = 0.06 to 0.58; p = 0.003) compared with arthroscopic surgery. Very low-quality evidence found that the rate of recurrence of DPVNS was reduced by peri-operative radiotherapy (OR = 0.31, 95% CI 0.14 to 0.70; p = 0.01). Very low-quality evidence suggested that the rate of recurrence of LPVNS was not related to the surgical approach. This meta-analysis suggests that open synovectomy or synovectomy combined with perioperative radiotherapy for DPVNS is associated with a reduced rate of recurrence. Large long-term prospective multicentre observational studies, with a focus on both rate of recurrence and function, are required to confirm these findings.
41. Title: The influence of humeral head inclination in reverse total shoulder arthroplasty: A systematic review
Citation: Journal of Shoulder and Elbow Surgery, June 2015, vol./is. 24/6(988-993), 1058-2746;1532-6500 (01 Jun 2015)
Author(s): Erickson B.J., Frank R.M., Harris J.D., Mall N., Romeo A.A.
Language: English
Abstract: Background: Humeral component inclination may play an important role in implant stability and the incidence of scapular notching in reverse total shoulder arthroplasty (RTSA). This study was conducted to determine if a difference exists between RTSA prostheses with a 135degree vs 155degree humeral component inclination angle with respect to dislocation rates and scapular notching rates. We hypothesized that the rate of dislocation would be significantly higher with the 135degree inclination design and that the rate of scapular notching would be significantly higher with the 155degree inclination design. Methods: A systematic review was registered with PROSPERO and performed with Preferred Reporting Items for Systematic reviews and Meta-Analyses (PRISMA) guidelines using 3 publicly available free databases. Therapeutic clinical outcome investigations reporting the number of dislocations, number of patients with scapular notching, and postoperative range of motion after RTSA with levels of evidence I to IV were eligible for inclusion. All study and subject demographics were analyzed. Statistics were calculated using 2-proportion z tests. Results: Thirty-eight studies including 2222 shoulders (average age, 70.3 +/- 3.91years; 67% female) undergoing RTSA were included. Of these, 1762 (79.3%) used the 155degree inclination prosthesis and 460 (20.7%) used the 135degree inclination prosthesis with a lateralized glenosphere. The rate of scapular notching was 2.83% in the 135degree group and 16.80% in the 155degree group (. P<.0001, z=-7.7107). The rate of dislocation was 1.74% in the 135degree group and 2.33% in the 155degree group (. P=.4432, z=-0.7669).
Conclusions: Our systematic review of 38 studies and 2222 shoulders found that the rate of scapular nothing was significantly higher with the 155degree prosthesis than with the 135degree prosthesis with a lateralized glenosphere, with no difference in dislocation rates between prostheses.

42. Title: There Are No Differences in Short- to Mid-term Survivorship Among Total Hip-bearing Surface Options: A Network Meta-analysis
Citation: Clinical Orthopaedics and Related Research, June 2015, vol./is. 473/6(2031-2041), 0009-921X;1528-1132 (01 Jun 2015)
Author(s): Wyles C.C., Jimenez-Almonte J.H., Murad M.H., Norambuena-Morales G.A., Cabanela M.E., Sierra R.J., Trousdale R.T.
Language: English
Abstract: Background: Total hip arthroplasty (THA) is increasingly being performed in patients with long life expectancies and active lifestyles. Newer implant bearing surfaces, with superior wear characteristics, often are used in this cohort with the goal of improving longevity of the prosthesis, but comparisons across the numerous available bearing surfaces are limited, so the surgeon and patient may have difficulty deciding which implants to use. Questions/purposes: The purpose of this study was to answer the following question: Is there a short- to mid-term survivorship difference between common THA bearings used in patients younger than age 65 years? Methods: We conducted a systematic review to identify randomized clinical trials (RCTs) published after 2000 that reported survivorship of ceramic-on-ceramic (CoC), ceramic-on-highly crosslinked polyethylene (CoPxl), or metal-on-highly crosslinked polyethylene (MoPxl) bearings. To qualify for our review, RCTs had to have a minimum 2-year followup and study patients were required to have an average age younger than 65 years. Direct-comparison meta-analysis and network meta-analysis were performed to combine direct and indirect evidence. Results: Direct-comparison meta-analysis found no differences among the bearing surfaces in terms of the risk of revision; this approach demonstrated a risk ratio for revision of 0.65 (95% confidence interval [CI], 0.19-2.23; p = 0.50) between CoC and CoPxl and a risk ratio for revision of 0.40 (95% CI, 0.06-2.63; p = 0.34) between CoC and MoPxl. Network meta-analysis (with post hoc modification) likewise found no differences in survivorship across the three implant types, demonstrating the following probabilities of most effective implant with 95% credible intervals (CrI): CoC = 64.6% (0%-100%); CoPxl = 24.9% (0%-100%); and MoPxl = 9.9% (0%-100%). The CrIs ranged from 0% to 100% for all three bearing surfaces. Direct-comparison meta-analysis allowed for pooling of five RCTs, including 779 THAs, whereas network meta-analysis (before post hoc analysis) enabled pooling of 18 RCTs, including 2599 THAs. Conclusions: Current published evidence does not support survivorship differences among commonly used bearing surfaces in.
patients younger than age 65 years undergoing THA at short- to mid-term followup. Long-term RCT data will be needed to determine if a survivorship benefit is realized in younger, more active patients over time. Level of Evidence: Level I, therapeutic study.

**Publication type:** Journal: Review

**Source:** EMBASE

---

### 43. Title: Thirty-day readmission rates in orthopedics: A systematic review and meta-analysis

**Citation:** PLoS ONE, April 2015, vol./is. 10/4, 1932-6203 (17 Apr 2015)

**Author(s):** Bernatz J.T., Tueting J.L., Anderson P.A.

**Language:** English

**Abstract:** Background: Hospital readmission rates are being used to evaluate performance. A survey of the present rates is needed before policies can be developed to decrease incidence of readmission. We address three questions: What is the present rate of 30-day readmission in orthopedics? How do factors such as orthopedic specialty, data source, patient insurance, and time of data collection affect the 30-day readmission rate? What are the causes and risk factors for 30-day readmissions? Methods/Findings: A review was first registered with Prospero (CRD42014010293, 6/17/2014) and a meta-analysis was performed to assess the current 30-day readmission rate in orthopedics. Studies published after 2006 were retrieved, and 24 studies met the inclusion criteria. The 30-day readmission rate was extrapolated from each study along with the orthopedic subspecialty, data source, patient insurance, time of collection, patient demographics, and cause of readmission. A sensitivity analysis was completed on the stratified groups. The overall 30-day readmission rate across all orthopedics was 5.4 percent (95% confidence interval: 4.8,6.0). There was no significant difference between subspecialties. Studies that retrieved data from a multicenter registry had a lower 30-day readmission rate than those reporting data from a single hospital or a large national database. Patient populations that only included Medicare patients had a higher 30-day readmission rate than populations of all insurance. The 30-day readmission rate has decreased in the past ten years. Age, length of stay, discharge to skilled nursing facility, increased BMI, ASA score greater than 3, and Medicare/Medicaid insurance showed statistically positive correlation with increased 30-day readmissions in greater than 75 percent of studies. Surgical site complications accounted for 46 percent of 30-day readmissions. Conclusions: This meta-analysis shows the present rate of 30-day readmissions in orthopedics. Demonstrable heterogeneity between studies underlines the importance of uniform collection and reporting of readmission rates for hospital evaluation and reimbursement.

**Publication type:** Journal: Article

**Source:** EMBASE

**Full text:** Available National Library of Medicine at PLoS ONE

---

### 44. Title: Topical application of tranexamic acid in primary total hip arthroplasty: A systemic review and meta-analysis

**Citation:** International Journal of Surgery, March 2015, vol./is. 15/(134-139), 1743-9191;1743-9159 (01 Mar 2015)

**Author(s):** Wang C., Xu G.-J., Han Z., Ma J.-X., Ma X.-L., Jiang X., Wang Y.

**Language:** English

**Abstract:** Objective: A systematic review of randomized controlled trials (RCTs) and non-RCTs was performed to evaluate efficacy for the reduction of postoperative blood loss and transfusion requirements of topical use of tranexamic acid in patients undergoing primary total hip arthroplasty. Method: Potential articles were identified from Medline (1966 - September 2014), Embase (1980 - September 2014), Pubmed (1980 - September 2014) and The Cochrane Central Register of Controlled Trials. Other internet databases are also searched to find trials according to the Cochrane Collaboration guidelines. Moreover, gray literatures are also selected from the reference list of the included studies. High quality randomized controlled trials (RCTs) and non-RCTs were selected. The software RevMan 5.1 was used for the mate-analysis. Results: Four RCTs and four non-RCT meet the inclusion criteria. There were significant differences in hemoglobin, total blood loss, transfusion requirements and postoperative drainage volume between TXA groups and control groups. There were no significant differences in length of stay, incidence of wound infection, deep vein thrombosis (DVT) and pulmonary embolism (PE) between treatment and control groups. Conclusions: Present meta-analysis indicates that the antifibrinolytic agent, also known as tranexamic acid, could reduce hemoglobin decline, volume of drainage, total blood loss and transfusion requirements after THA, and is not related to adverse reactions or complications such as wound infection, DVT and PE.

**Publication type:** Journal: Article

**Source:** EMBASE

---

### 45. Title: Treatment of articular cartilage lesions of the knee by microfracture or autologous chondrocyte implantation: A systematic review

**Citation:**
Abstract: Purpose We performed a systematic review of the treatment of articular cartilage lesions of the knee by microfracture or autologous chondrocyte implantation to determine the differences in patient outcomes after these procedures. Methods We searched PubMed/Medline, Embase, and The Cochrane Library databases in the period from January 10 through January 20, 2013, and included 34 articles in our qualitative analysis. Results All studies showed improvement in outcome scores in comparison with baseline values, regardless of the treatment modality. The heterogeneity of the results presented in the studies precluded a meta-analysis. Conclusions Microfracture appears to be effective in smaller lesions and is usually associated with a greater proportion of fibrocartilage production, which may have an effect on durability and eventual failure. Autologous chondrocyte implantation is an effective treatment that may result in a greater proportion of hyaline-like tissue at the repair site, which may in turn have a beneficial effect on durability and failure; it appears to be effective in larger lesions. Autologous chondrocyte implantation with periosteum has been shown to be associated with symptomatic cartilage hypertrophy more frequently than autologous chondrocyte implantation with collagen membrane. Matrix-associated autologous chondrocyte implantation is technically less challenging than the other techniques available, and in lesions greater than 4 cm², it has been shown to be more effective than microfracture. Level of Evidence Level IV, systematic review of Level I-IV studies.

News

Orthopaedics Horizon Scanning
http://orthopaedicsnwpctl.wordpress.com/

NHS Choices

Potential breakthrough for osteoporosis announced
Monday Jun 15 2015
"Bone could be regrown to treat osteoporosis after breakthrough," The Daily Telegraph reports. This headline follows the development of a new drug that may increase bone formation, which could potentially combat osteoporosis. But this...

Having a spine similar to a chimp could lead to back pain
Monday Apr 27 2015
"People with lower back problems are more likely to have a spine similar in shape to the chimpanzee," BBC News reports. Research suggests that humans with similar shaped vertebrae to chimps are more vulnerable to developing a slipped disc...

Disclaimer and Feedback

This current awareness bulletin contains a selection of information which is not intended to be exhaustive, and although library staff have made every effort to link only to reputable and reliable websites, the information contained in this bulletin has not been critically appraised by library staff. It is therefore the responsibility of the reader to appraise this information for accuracy and relevance.

This bulletin was produced by Caroline Thomas, Librarian, Salisbury NHS Foundation Trust Healthcare Library. If you have any comments to make about this bulletin please contact Caroline.thomas@salisbury.nhs.uk.