University Hospitals Bristol NHS
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Orthogeriatrics

Evidence Update

December 2017

(Quarterly)

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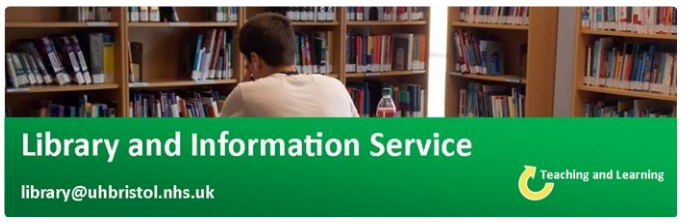

Training Sessions 2017/18

All sessions are one hour

January (13.00-14.00)

4th (Thu)	Statistics
8th (Mon)	Literature Searching
18th (Thu)	Critical Appraisal
24th (Wed)	Statistics

February (12.00-13.00)

1st (Thu)	Literature Searching
9th (Fri)	Critical Appraisal
12th (Mon)	Statistics
20th (Tue)	Literature Searching
28th (Wed)	Critical Appraisal

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LITERATURE SEARCHING: We provide a literature searching service for any library member. For those embarking on their own research it is advisable to book some time with one of the librarians for a one-to-one session where we can guide you through the process of creating a well-focused literature research and introduce you to the health databases access via NHS Evidence. Please email requests to library@uhbristol.nhs.uk

Contents

Updates

NICE National Institute for Health and Care Excellence

Screening of the frail patient in the emergency department: A systematic review

Source: PubMed - 03 October 2017 - Publisher: European Journal Of Internal Medicine Read Summary

Z-drugs and risk for falls and fractures in older adults-a systematic review and meta-analysis

25 October 2017 - Publisher: Age and Ageing Read Summary

Making a start in integrated care for older persons [PDF]

08 November 2017 - Publisher: Health Service Executive, Republic of Ireland

Economic evaluations of comprehensive geriatric assessment in surgical patients: a systematic review

Source: PubMed - 01 October 2017 - Publisher: The Journal Of Surgical Research

Cochrane Library

Orthogeriatrics : the First multicentre regional register of hip fractures in Castilla y Leon (Spain)

Revista espanola de geriatria y gerontologia. (no pagination), 2017, 2017,

Date of Publication: October 16: Online Publication Date: 2017

UpToDate®

OpenAthens login required. Register here: https://openathens.nice.org.uk/

Frailty

Literature review current through: Dec 2017. | **This topic last updated:** Oct 05, 2017.

Osteoporosis in patients with chronic kidney disease: Diagnosis and evaluation

Literature review current through: Dec 2017. | **This topic last updated:** Jan 02, 2018.

Osteoporotic fracture risk assessment

Literature review current through: Dec 2017. | **This topic last updated:** Jan 04, 2018.

Failure to thrive in elderly adults: Evaluation

Literature review current through: Dec 2017. | **This topic last updated:** Jan 04, 2018.

Failure to thrive in elderly adults: Management

Litrature review current through: Dec 2017. | **This topic last updated:** Jan 04, 2018.

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Recent Database Articles

Below is a selection of articles related to orthogeriatrics recently added to the healthcare databases, grouped in the following categories:

- **Medical**
- **Patient care and management**
- **Psychological**
- **Other**

If you would like any of the following articles in full text, or if you would like a more focused search on your own topic, then get in touch: library@uhbristol.nhs.uk

Medical

Assessment of geriatric predictors of adherence to Zoledronic acid treatment for osteoporosis: a prospective follow-up study.

Author(s): Tasci, Ilker; Cintosun, Umit; Safer, Umut; Naharci, M Ilkin; Bozoglu, Ergun

Source: Acta clinica Belgica; Dec 2017 ; p. 1-7

Publication Type(s): Journal Article

Abstract: Objectives Discontinuation of bisphosphonate treatment remains high even with the long acting parenteral options. Whether there are some unidentified causes of noncompliance more specific to aged individuals is unknown. The aim of this study was to investigate baseline predictors of adherence to Zoledronic acid (ZOL) infusions among non-demented older adults with osteoporosis. Methods Patients aged ≥ 65 years who received a first ever ZOL infusion for osteoporosis were prospectively enrolled. Risk factors for osteoporosis and fractures, comorbidities, geriatric assessment measures, including depression, and anticholinergic burden were determined at baseline. Adherence was defined as taking the next ZOL infusion at 12 months. Results A total of 187 participants were included (mean age: 75.7 ± 6.3 years, female: 77.5%). Adherence to the next ZOL infusion was 66.8% (n = 125). Non-adherent participants (n = 62, 33.2%) had significantly higher frequency of historical height decrease and depression at baseline. Poor adherence was associated with height decrease, presence of depression, and higher anticholinergic burden in univariate analysis. After adjustment for relevant confounders, fragility fracture history (OR: 0.38, 95%CI: 0.17-0.86, p = 0.020), depression (OR: 0.32, 95%CI: 0.12-0.82, p = 0.018), and higher anticholinergic burden (OR: 0.67, 95%CI: 0.49-0.93, p = 0.017) were the predictors of lower adherence to ZOL infusion. Conclusions The rate of adherence to the next ZOL infusion was still suboptimal among older women and men in this study. Past osteoporotic fractures, depression, and higher anticholinergic drug burden predicted poor ZOL adherence. It was a novel finding that drug-related anticholinergic side effects adversely influenced adherence to another medication without anticholinergic properties.

Associations of components of sarcopenic obesity with bone health and balance in older adults.

Author(s): Scott, David; Shore-Lorenti, Catherine; McMillan, Lachlan; Mesinovic, Jakub; Clark, Ross A

Source: Archives of gerontology and geriatrics; Dec 2017; vol. 75 ; p. 125-131

Publication Type(s): Journal Article

Abstract:OBJECTIVESTo determine characteristics of sarcopenic obesity that are independently associated with bone health and balance in older adults.STUDY DESIGNCross-sectional study of 168 community-dwelling older adults (mean age 67.7 ± 8.4 years; 55% women).MAIN OUTCOME MEASURESAppendicular lean mass (ALM), whole-body areal BMD (aBMD) and body fat percentage were assessed by dual-energy X-ray absorptiometry. Peripheral quantitative computed tomography assessed muscle density and cortical volumetric BMD (vBMD), area, thickness, and strength-strain index (SSI) at 66% tibial length. Hand grip strength (dynamometry) and balance path length (computerised posturography) were assessed. Obesity was defined as high body fat percentage.RESULTSGreater lower-leg muscle density was associated with lower balance path length in men (r = -0.36; P < .01) and women (r = -0.40; P = < .01). Obese participants by body fat percentage did not differ to non-obese on bone indices, although a trend towards lower cortical vBMD was observed in obese compared with non-obese men (1041.4 ± 39.8 vs 1058.8 ± 36.1 mg/cm3; P = .051). In multivariable models, ALM was positively associated with all bone parameters in obese women, and with whole-body aBMD, proximal tibial cortical area and SSI in non-obese women, and both non-obese and obese men (all P < .05). Lower-leg muscle density was also positively associated with cortical vBMD (B = 2.91; 95% CI 0.02, 5.80) and area (2.70; 0.06, 5.33) in obese women.CONCLUSIONSAmongst components of sarcopenic obesity, higher ALM is a consistent independent predictor of better bone health. Low muscle density may also compromise bone health and balance. Interventions which improve muscle mass and composition may lower fracture risk in sarcopenic obesity.

Analysis of mortality and fixation failure in geriatric fractures using quantitative computed tomography.

Author(s): Pidgeon, Tyler S; Johnson, Joey P; Deren, Matthew E; Evans, Andrew R; Hayda, Roman A

Source: Injury; Dec 2017

Publication Type(s): Journal Article

Abstract:OBJECTIVESWhile osteoporosis has been shown to be a contributing factor in low energy fractures in the elderly, limited data exists regarding the correlation of bone mineral density (BMD) and T-Scores to mortality and failure of fracture fixation. This study seeks to determine the relationship between femoral neck BMD in elderly patients with typical geriatric fractures and mortality and fracture fixation failure using Quantitative Computed Tomography (QCT).MATERIALS AND METHODSPatients over the age of 65 who sustained fractures of the proximal humerus, distal radius, pelvic ring, acetabulum, hip, proximal tibia, and ankle who also underwent a CT scan that included an uninjured femoral neck were retrospectively reviewed. QCT was used to assess bone mineral density and T scores. Mortality and fixation failure were recorded. Standard descriptive statistics, as well as logistic regression were used to correlate BMD and mortality, and BMD and fixation failure.RESULTSOf the 173 patients initially screened, 150 met inclusion criteria. Patients who remained alive at the end of the study (LP) had significantly (P = .019) higher adjusted mean femoral neck BMD (0.502 g/cm2) than non-polytrauma patients who died (MNPT) (0.439 g/cm2) when controlling for age, time to mortality, follow up, CCI, and ASA. Patients who had fixation failure events (FE) had significantly (P = .002) lower adjusted mean femoral neck BMD (0.342 g/cm2) than patients without failure events (NE) (0.525 g/cm2) when controlling for age and time to radiographic follow-up.CONCLUSIONSOur study illustrates that QCT is a reliable method for the determination of femoral neck BMD in elderly patients with geriatric fractures. Furthermore, lower BMD/T-Scores are associated with increased mortality and fixation failures in this patient population.

Association between the use of benzodiazepines and opioids with the risk of falls and hip fractures in older adults.

Author(s): Machado-Duque, Manuel E; Castaño-Montoya, Juan Pablo; Medina-Morales, Diego A

Source: International psychogeriatrics; Dec 2017 ; p. 1-6

Publication Type(s): Journal Article

Abstract:BACKGROUNDTo determine the association between the use of opioids and benzodiazepines and the risk of falls with hip fracture in populations older than 65 years in Colombia.METHODSA case-control study with patients older than 65 years with diagnosis of hip fracture. Two controls were obtained per case. The drugs dispensed in the previous 30 days were identified. Sociodemographic, diagnostic, pharmacological (opioids and benzodiazepines), and polypharmacy variables were analyzed. A logistic regression model was used to analyze the risk of fall with hip fracture while using these drugs.RESULTSWe included 287 patients with hip fractures and 574 controls. There was a female predominance (72.1%) and a mean age of 82.4 ± 8.0 years. Of the patients, 12.7% had been prescribed with opioids and 4.2% with benzodiazepines in the previous month. The adjusted multivariate analysis found that using opioids (OR:4.49; 95%CI:2.72-7.42) and benzodiazepines (OR:3.73; 95%CI:1.60-8.70) in the month prior to the event was significantly associated with a greater probability of suffering a fall with hip fracture.CONCLUSIONSPeople who are taking opioids and benzodiazepines have increased risk for hip fracture in Colombia. Strategies to educate physicians regarding the pharmacology of older adults should be strengthened.

Peri-operative antibiotic treatment of bacteriuria reduces early deep surgical site infections in geriatric patients with proximal femur fracture.

Author(s): Langenhan, Ronny; Bushuven, Stefanie; Reimers, Niklas; Probst, Axel

Source: International orthopaedics; Dec 2017

Publication Type(s): Journal Article

Abstract:PURPOSEThe aim of this study was to conduct a re-evaluation of current strategies for peri-operative prophylaxis of infections in orthopaedic surgery of geriatric patients (≥65 years) with proximal femoral fractures (PFF).METHODSBetween 01/2010 and 08/2014 all post-operative infections after stabilization of PFF of 1,089 geriatric patients were recorded retrospectively. All patients pre-operatively received a single dose of 1.5 g cefuroxime (group 1). These were compared to prospectively determined post-operative rates of surgical site infection (SSI) of 441 geriatric patients, which were operated on between 09/2014 and 03/2017 due to PFF. In this second group we investigated the urinary tract on admission. Bacteriuria was treated with the pre-operative single dose of 1.5 g cefuroxime along with ciprofloxacin for five days, beginning on admission. Level of significance was set to $p < 0.05$.RESULTSA total of 141 patients of group 2 had a bacteriuria. Seventy-seven of these patients revealed biochemical signs of manifest urinary tract infection. Multi-resistant pathogens were found in 15 patients and pathogens were cefuroxime-resistant in 37. The differences of SSI after at least three months were 2.1% in group 1 and 0.45% in group 2 for all patients with surgery of PFF ($p < 0.02$) and for those with arthroplasty ($p < 0.037$) significant.CONCLUSIONSThe immediate antibiotic therapy of a prevalent bacteriuria for five days decreases the risk of SSI after surgery of PFF. Our single-centre study can only point out the problem of prevalent reservoirs of pathogens and the need for treatment. Evidence-based therapy concepts (indications of antibiotics, classes, duration) have to be developed in multi-centric and prospective studies.

Incidence, Risk Factors, and Clinical Implications of Pneumonia After Surgery for Geriatric Hip Fracture.

Author(s): Bohl, Daniel D; Sershon, Robert A; Saltzman, Bryan M; Darrith, Brian; Della Valle, Craig J

Source: The Journal of arthroplasty; Dec 2017

Publication Type(s): Journal Article

Abstract:BACKGROUNDLittle is known regarding the occurrence of pneumonia after hip fracture surgery. The purpose of this study is to determine the incidence, risk factors, and clinical implications of pneumonia after surgery for geriatric hip fracture.METHODSThe American College of Surgeons National Surgical Quality Improvement Program was used to retrospectively study geriatric patients undergoing surgery for hip fracture during 2006-2014. Independent risk factors for developing pneumonia within 30 days of surgery were identified using multivariate regression.RESULTSOf the 29,377 patients meeting inclusion criteria, 13,736 (46.8%) underwent hemiarthroplasty, 9468 (32.2%) intramedullary fixation, 4294 (14.6%) plate and/or screw fixation, 1299 (4.4%) total joint arthroplasty, and 580 (2.0%) percutaneous fixation. In total 1191 patients developed pneumonia, an incidence of 4.1%. The strongest risk factors for pneumonia were male sex, older age (especially ≥90 years), low body mass index, and chronic obstructive pulmonary disease. Patients who developed pneumonia had a higher readmission rate (79.1% vs 8.2%, P < .001), a higher rate of sepsis (16.6% vs 1.7%, P < .001), and a higher mortality rate (29.2% vs 5.7%, P < .001). Among 1602 total mortalities, 348 (17.9%) occurred in patients with pneumonia.CONCLUSIONPneumonia is a serious complication after geriatric hip fracture surgery, which increases the readmission and mortality risks. Evidence-based pneumonia prevention programs should be implemented among high-risk patients-males, patients ≥90 years, body mass index <18.5 kg/m2, and/or patients with chronic obstructive pulmonary disease-to decrease morbidity and mortality.

High prevalence of prescription of psychotropic drugs for older patients in a general hospital.

Author(s): Arnold, Inken; Straube, Kati; Himmel, Wolfgang; Heinemann, Stephanie; Weiss, Vivien

Source: BMC pharmacology & toxicology; Dec 2017; vol. 18 (no. 1); p. 76

Publication Type(s): Journal Article

Available at BMC pharmacology & toxicology - from EBSCO (MEDLINE Complete)

Abstract:BACKGROUNDMany elderly patients receive psychotropic drugs. Treatment with psychotropic agents is associated with serious side effects including an increased risk of falls and fractures. Several psychotropic drugs are considered potentially inappropriate for treatment of the elderly. **[ABSTRACT EDITED]**

Fractures frequently occur in older cancer patients: the MD Anderson Cancer Center experience.

Author(s): Edwards, Beatrice J; Sun, Ming; Zhang, Xiaotao; Holmes, Holly M; Song, Juhee

Source: Supportive care in cancer : official journal of the Multinational Association of Supportive Care in Cancer; Dec 2017

Publication Type(s): Journal Article

Abstract:PURPOSE AND INTRODUCTIONA growing number of cancer patients are older adults aged 65 years and older. Patients with cancer are at increased risk for developing osteoporosis, falls, and fractures. We sought to identify the incidence of fractures in older adults who underwent cancer care between January 2013 and December 2015.METHODSA comprehensive geriatric assessment was performed, and bone densitometry was measured at baseline, with a 2-year follow-up.RESULTSIn this study, among 304 patients with gastrointestinal, urologic, breast, lung, and gynecologic cancers we evaluated, and who completed the bone density testing (n = 199), 80% had osteoporosis or low bone mass (osteopenia). There was a higher prevalence of osteoporosis in cancer patients (40 vs. 16%, p = 0.05) than in population studies. Vitamin D insufficiency (< 30 ng/ml) was identified in 49% of tested cases (n = 245). Risk factors for low bone mass or osteoporosis were advanced age (p = 0.05), malnutrition (p = 0.04), and frailty (p = 0.01). Over the following 2 years (median follow-up 18 months), there was an incidence of fractures of 110 per 1000 person-years, or 2.8 times higher than reported in individuals without cancer. Risk factors for fractures included advanced age (70-79 vs. 60-69 years, p = 0.05) and frailty (p = 0.03).CONCLUSIONMost older cancer

patients studied have osteoporosis or low bone mass, resulting in an almost 3-fold increase in fracture risk as compared to epidemiologic studies. Bone health issues are commonly seen in older cancer patients, we recommend universal bone density testing. The initiation of antiresorptive treatment when findings are of osteopenia or osteoporosis will reduce the risk of fractures.

Association between Antidepressants and Fall-Related Injuries among Long-Term Care Residents.

Author(s): Macri, Jennifer C; Iaboni, Andrea; Kirkham, Julia G; Maxwell, Colleen; Gill, Sudeep S

Source: The American journal of geriatric psychiatry : official journal of the American Association for Geriatric Psychiatry; Dec 2017; vol. 25 (no. 12); p. 1326-1336

Publication Date: Dec 2017

Publication Type(s): Journal Article

PubMedID: 28943234

Abstract:OBJECTIVESAntidepressants are associated with an increased risk of falls although little is known of the comparative risks of different types of antidepressants or individuals who are at greatest risk for falls. We examined the association between new use of antidepressants and fall-related injuries among older adults in long-term care (LTC).DESIGN, SETTING, PARTICIPANTSThis was a matched, retrospective cohort study involving LTC residents in Ontario, Canada, from 2008 to 2014. New users of antidepressants were matched to non-users of antidepressants.MEASUREMENTSThe primary outcome was any fall resulting in an emergency department (ED) visit or hospitalization within 90 days after exposure. Secondary outcomes included hip fractures, wrist fractures, and falls reported in LTC. Multivariate logistic regression was used to estimate the odds ratio (OR) and 95% confidence interval associated with antidepressants and outcomes.RESULTSNew users of any antidepressant had an increased risk of ED visits or hospitalization for falls within 90 days when compared with individuals not receiving antidepressants (5.2% versus 2.8%; adjusted OR: 1.9, 95% CI: 1.7-2.2). Antidepressants were also associated with an increased risk of all secondary outcomes. The increased risk of fall-related injuries was evident among selective-serotonin reuptake inhibitors, serotonin-norepinephrine reuptake inhibitors, trazodone, and across multiple patient subgroups.CONCLUSIONSNew use of antidepressants is associated with significantly increased risk of falls and fall-related injuries among LTC residents across different patient subgroups and antidepressant classes. The potential risk of fall-related outcomes should be carefully considered when initiating antidepressants among older adults in LTC.

Serum Albumin Predicts Survival and Postoperative Course Following Surgery for Geriatric Hip Fracture.

Author(s): Bohl, Daniel D; Shen, Mary R; Hannon, Charles P; Fillingham, Yale A; Darrith, Brian;
Source: The Journal of bone and joint surgery. American volume; Dec 2017; vol. 99 (no. 24); p. 2110-2118

Publication Type(s): Journal Article

Abstract:BACKGROUNDSerum albumin level is the most well-established serum marker of malnutrition, with a serum albumin concentration <3.5 g/dL considered to be suggestive of malnutrition. The purpose of this study was to test if serum albumin level is associated with death, specific postoperative complications (e.g., pneumonia), length of hospital stay, and readmission following a surgical procedure for geriatric hip fracture. **[ABSTRACT EDITED]**

Optimizing Surgical Quality Datasets to Care for Older Adults: Lessons from the American College of Surgeons NSQIP Geriatric Surgery Pilot.

Author(s): Berian, Julia R; Zhou, Lynn; Hornor, Melissa A; Russell, Marcia M; Cohen, Mark E

Source: Journal of the American College of Surgeons; Dec 2017; vol. 225 (no. 6); p. 702

Publication Type(s): Journal Article

Abstract:BACKGROUNDSurgical quality datasets can be better tailored toward older adults. The American College of Surgeons (ACS) NSQIP Geriatric Surgery Pilot collected risk factors and outcomes in 4 geriatric-specific domains: cognition, decision-making, function, and mobility. This study evaluated the contributions of geriatric-specific factors to risk adjustment in modeling 30-day outcomes and geriatric-specific outcomes (postoperative delirium, new mobility aid use, functional decline, and pressure ulcers).STUDY DESIGNUsing ACS NSQIP Geriatric Surgery Pilot data (January 2014 to December 2016), 7 geriatric-specific risk factors were evaluated for selection in 14 logistic models (morbidities/mortality) in general-vascular and orthopaedic surgery subgroups. Hierarchical models evaluated 4 geriatric-specific outcomes, adjusting for hospitals-level effects and including Bayesian-type shrinkage, to estimate hospital performance.RESULTSThere were 36,399 older adults who underwent operations at 31 hospitals in the ACS NSQIP Geriatric Surgery Pilot. Geriatric-specific risk factors were selected in 10 of 14 models in both general-vascular and orthopaedic surgery subgroups. After risk adjustment, surrogate consent (odds ratio [OR] 1.5; 95% CI 1.3 to 1.8) and use of a mobility aid (OR 1.3; 95% CI 1.1 to 1.4) increased the risk for serious morbidity or mortality in the general-vascular cohort. Geriatric-specific factors were selected in all 4 geriatric-specific outcomes models. Rates of geriatric-specific outcomes were: postoperative delirium in 12.1% (n = 3,650), functional decline in 42.9% (n = 13,000), new mobility aid in 29.7% (n = 9,257), and new or worsened pressure ulcers in 1.7% (n = 527).CONCLUSIONSGeriatric-specific risk factors are important for patient-centered care and contribute to risk adjustment in modeling traditional and geriatric-specific outcomes. To provide optimal patient care for older adults, surgical datasets should collect measures that address cognition, decision-making, mobility, and function.

Identifying characteristics and outcomes that are associated with fall-related fatalities: multi-year retrospective summary of fall deaths in older adults from 2005-2012.

Author(s): Deprey, Sara M; Biedrzycki, Lynda; Klenz, Kristine

Source: Injury epidemiology; Dec 2017; vol. 4 (no. 1); p. 21

Publication Type(s): Journal Article

Available at Injury epidemiology - from Europe PubMed Central - Open Access

Abstract:BACKGROUNDFall-related deaths continue to be the leading cause of accidental deaths in the older adult (65+ year) population. However, many fall-related fatalities are unspecified and little is known about the fall characteristics and personal demographics at the time of the fall. Therefore, this report describes the characteristics, circumstances and injuries of falls that resulted in older adult deaths in one U.S. County and explores the variables associated with fatal injuries from falls. **[ABSTRACT EDITED]**

Septic Arthritis and Prosthetic Joint Infections in Older Adults.

Author(s): Nair, Rajeshwari; Schweizer, Marin L; Singh, Namrata

Source: Infectious disease clinics of North America; Dec 2017; vol. 31 (no. 4); p. 715-729

Publication Type(s): Journal Article Review

Abstract: Older adults are at increased risk for septic arthritis and prosthetic joint infections (PJI), owing at least in part to comorbid conditions and frailty. An increasing number of older adults undergo total joint arthroplasty to improve their quality of life. Infections in older adults differ from younger populations by the causative organisms, a great proportion of which are Staphylococcal infections. Targeting important modifiable and nonmodifiable risk factors may prevent or reduce the burden of joint infections in older adults. This review summarizes the epidemiology, pathogenesis,

clinical manifestations, diagnosis, management, and prevention of septic arthritis and PJI in older adults.

Analysis of falls that caused serious events in hospitalized patients.

Author(s): Kobayashi, Kazuyoshi; Imagama, Shiro; Ando, Kei; Inagaki, Yuko; Suzuki, Yusuke; Nishida, Yoshihiro; Nagao, Yoshimasa; Ishiguro, Naoki

Source: Geriatrics & gerontology international; Dec 2017; vol. 17 (no. 12); p. 2403-2406

Publication Type(s): Journal Article

Abstract:AIMFalls are common adverse events for hospitalized elderly patients that can cause fracture, which decreases activities of daily living, and other injuries that can be fatal. The purpose of the present study was to investigate serious events due to fall, and to consider measures for fall prevention.METHODSIncidents of fall were obtained from a database of 163 558 inpatients at Nagoya University Hospital, Nagoya, Aichi, Japan, from April 2012 to March 2016. The risk of fall was evaluated using a fall assessment score sheet at admission and during hospitalization, based on which patients were divided into risk grades 1, 2 and 3. A fall that led to fracture or a life-threatening injury was defined as a serious event.RESULTSFall occurred in 3099 patients for 4 years (1.89%). Most patients that fell (45%) were in the highest (grade 3) risk category. Serious events associated with fall occurred in 36 of the 3099 patients (1.2%), and the overall incidence of serious events was 0.22%. These events included fracture in 24 patients, intracranial injury in 10 patients and others in two patients. Finally, one patient died. Serious events occurred significantly more frequently after falls in patients wearing slippers compared with other footwear ($P < 0.01$). The incidences of serious events and fall were significantly higher in patients with a higher risk of fall ($P < 0.05$).CONCLUSIONSThe present results support the validity of our risk assessment scale for fall, but it should be recognized that fall can also occur in a patient with a low predicted risk of fall. Geriatr Gerontol Int 2017; 17: 2403-2406.

Urinary tract infection in patients with hip fracture: An underestimated event?

Author(s): Bliemel, Christopher; Buecking, Benjamin; Hack, Juliana; Aigner, Rene

Source: Geriatrics & gerontology international; Dec 2017; vol. 17 (no. 12); p. 2369-2375

Publication Type(s): Journal Article

Abstract:AIMUrinary tract infections (UTI) represent a common perioperative complication among elderly patients with hip fracture. To determine the impact of UTI on the perioperative course of elderly patients with hip fractures, a prospective study was carried out.METHODSA total of 402 surgically-treated geriatric hip fracture patients were consecutively enrolled at a level 1 trauma center. On admission, all patients received an indwelling urinary catheter. Clinically symptomatic patients were screened more closely for UTI. Patients diagnosed with UTI were compared with asymptomatic patients. Outcomes in both patient groups were measured using in-hospital mortality, overall length of hospital stay, wound infection, functional results and mobility at discharge. Multivariate regression analysis was carried out to control for influencing factors.RESULTSA total of 97 patients (24%) sustained a UTI during in-hospital treatment. UTI were independently associated with inferior functional outcomes as assessed by the Barthel Index ($\beta = -0.091$; $P = 0.031$), Timed Up and Go test ($\beta = 0.364$; $P = 0.001$) and Tinetti test ($\beta = -0.169$; $P = 0.001$) at discharge. Additionally, length of hospital stay was significantly longer for patients with a UTI diagnosis ($\beta = 0.123$; $P = 0.029$) after controlling for all other variables. No differences were observed in the rate of wound infection (odds ratio 1.185; $P = 0.898$) or in-hospital mortality ($P < 0.997$).CONCLUSIONSPatients with UTI seem to be at risk of inferior functional outcomes. In addition to an early detection of symptomatic UTI and a targeted antibiotic therapy, perioperative care should focus on preserving functional

ability to protect these patients from further loss of independence and prolonged clinical courses. Geriatr Gerontol Int 2017; 17: 2369-2376.

Oral-maxillofacial trauma of a geriatric population in a super-ageing country.

Author(s): Ito, Ryohei; Kubota, Kosei; Inui, Akinari; Nakagawa, Hiroshi; Kon, Takao; Narita, Norihiko

Source: Dental traumatology : official publication of International Association for Dental Traumatology; Dec 2017; vol. 33 (no. 6); p. 433-437

Publication Type(s): Journal Article

Abstract:BACKGROUND/AIMWorld population has been ageing, and oral-maxillofacial trauma of geriatric population is expected to increase. The aim of this study was to analyse the characteristic features of oral-maxillofacial trauma in the geriatric population.MATERIALS AND METHODSData from 127 patients aged 65 years old or older, who were treated for oral-maxillofacial trauma at the Department of Oral and Maxillofacial Surgery, Hirosaki University, from 2000 to 2014, were retrospectively analysed. The data from 292 patients aged 20-64 years were used as a comparison.RESULTSOral-maxillofacial trauma in the geriatric population had been increasing over 15-year period. The male to female ratio was 1.05:1 in the older group and 2.3:1 in the younger group. In the older group, 117 patients (92.1%) had one or more underlying systemic diseases, and 16 (12.6%) had suffered injuries in association with acute medical disorders. The most common injuries in the older group were bone fractures (46.5%). The ratio of fractures in the older group was lower than in the younger group (69.2%). Trauma in the older group most frequently occurred because of falls from a standing height or lower (52.0%), and the mandible was the most common site of fracture (74.6%). A conservative form of treatment for maxillofacial fractures was most commonly (86.4%) chosen for the older group, whilst surgical treatment was most commonly in the younger group (55.0%).CONCLUSIONOral-maxillofacial trauma in the geriatric population shows characteristic features in terms of aetiology, patterns and treatment modalities.

Pre-fracture hospitalization is associated with worse functional outcome and higher mortality in geriatric hip fracture patients.

Author(s): Aigner, Rene; Buecking, Benjamin; Hack, Juliana; Eschbach, Daphne; Oberkircher, Ludwig;

Source: Archives of osteoporosis; Dec 2017; vol. 12 (no. 1); p. 32

Publication Type(s): Journal Article Observational Study

Abstract: Hip fractures are common in elderly people. Despite great progress in surgical care, the outcomes of these patients remain disappointing. This study determined pre-fracture hospital admission as a prognostic variable for inferior functional outcomes and increased mortality rates in the perioperative phase and in the first postoperative year.PURPOSEThe influence of a pre-fracture hospitalization on outcomes in hip fracture patients has not yet been investigated.METHODSFour hundred two patients who were surgically treated for hip fracture were prospectively enrolled. Patients with a hospital stay within the last 3 months prior to a hip fracture were compared to patients without a pre-fracture hospitalization. Postoperative functional outcomes and mortality rates were compared between groups at the time of hospital discharge and additionally at the six- and twelve-month follow-up appointments. A multivariate regression analysis was performed.RESULTSA pre-fracture hospitalization was reported by 67 patients (17%). In 63% of cases, patients were admitted due to non-surgical, general medical conditions. In 37% of cases, patients were treated due to a condition related to a surgical subject. In the multivariate analysis, pre-fracture hospitalization was an independent risk factor for reduced values on the Barthel Index at 6 months after surgery (B, -9.918; 95%CI of B, -19.001--0.835; p = 0.032) and on the Tinetti Test at 6 months (B, -2.914; 95%CI of B, -1.992--0.047; p = 0.047) and 12 months after surgery (B, -4.680; 95%CI of B, -8.042--1.319; p = 0.007). Pre-fracture hospitalization was additionally associated with

increased mortality rates at 6 months (OR 1.971; 95%CI 1.052-3.693; p = 0.034) and 12 months after surgery (OR 1.888; 95%CI 1.010-9.529; p = 0.046).CONCLUSIONSHip fracture patients with a recent pre-fracture hospital admission are at a substantial risk for inferior functional outcomes and increased mortality rates not only in the perioperative phase but also in the first postoperative year. As a simple dichotomous variable, pre-fracture hospitalization might be a suitable tool for future geriatric hip fracture screening instruments.

Nerve Blocks in the Geriatric Patient With Hip Fracture: A Review of the Current Literature and Relevant Neuroanatomy

Author(s): Amin N.H.; Farmer T.; West J.A.; Basmajian H.G.

Source: Geriatric Orthopaedic Surgery and Rehabilitation; Dec 2017; vol. 8 (no. 4); p. 268-275

Publication Type(s): Review

Available at Geriatric Orthopaedic Surgery and Rehabilitation - from Europe PubMed Central - Open Access

Abstract: Introduction: Hip fracture is a common occurrence in the elderly population with high morbidity and mortality due to postoperative pain and opioid use. The goal of this article is to review the current literature on the neuroanatomy of the hip and the use of localized nerve block in controlling hip fracture pain. Methods: A thorough search of MEDLINE/PubMed, Embase, and the Cochrane Database of Systematic Reviews was conducted using the search terms "hip fracture" and "fascia iliaca block (FICB)." An additional search was conducted utilizing multiple search terms including "hip fracture,""greater trochanter,""femur,""hip,""anatomy,""neuroanatomical," and "anatomic." Each search result was investigated for cadaveric studies on the innervation of the trochanteric region. Results: Twenty-five clinical studies examining the use of FICBs in hip fracture patients were identified. These studies show that FICB is safe and effective in controlling perioperative pain. Additionally, FICB has been shown to decrease opioid requirement and opioid-related side effects. Neuroanatomical studies show that the hip capsule is innervated by contributions from the femoral, obturator, sciatic, and superior gluteal nerves. Imaging studies suggest that FICB anesthetizes these branches through localized spread along the fascia iliaca plane. Cadaveric evidence suggests that the greater trochanter region is directly innervated by a single branch from the femoral nerve. Discussion: The proven efficacy of nerve blocks and their anatomic basis is encouraging to both the anesthesiologist and orthopedic surgeon. Their routine use in the hip fracture setting may improve patient outcomes, given the unacceptably high morbidity and mortality associated with opioid use. Conclusions: Localized nerve blocks, specifically FICB, have been shown to be safe and effective in managing acute hip fracture pain in geriatric patients, leading to decreased opioid use. Knowledge of the hip neuroanatomy may help guide future development of hip fracture pain blockade.

Femoral intertrochanteric nail (fitn): a new short version design with an anterior curvature and a geometric match study using post-operative radiographs.

Author(s): Chang, Shi-Min; Hu, Sun-Jun; Ma, Zhuo; Du, Shou-Chao; Zhang, Ying-Qi

Source: Injury; Nov 2017

Publication Type(s): Journal Article

Abstract:OBJECTIVEFemoral intertrochanteric fractures are usually fixed with short, straight cephalomedullary nails. However, mismatches between the nail and the femur frequently occur, such as tip impingement and tail protrusion. The authors designed a new type of short femoral intertrochanteric nail (fitn) with an anterior curvature (length=19.5cm, r=120cm) and herein report the geometric match study for the first of 50 cases.METHODSA prospective case series of 50 geriatric patients suffering from unstable intertrochanteric fractures (AO/OTA 31 A2/3) were treated. There

were 15 males and 35 females, with an average age of 82.3 years. Post-operatively, the nail entry point position in the sagittal greater trochanter (in three categories, anterior, central and posterior), the nail-tip position in the medullary canal (in 5-grade scale) and the nail-tail level to the greater trochanter (in 3-grade scale) were measured using X-ray films.RESULTSFor the nail entry point measurement, 5 cases were anterior (10%), 38 cases were central (76%), and 7 cases were posterior (14%). For the distal nail-tip position, 32 cases (64%) were located along the central canal axis, 13 cases (26%) were located anteriorly but did not contact the anterior inner cortex, 2 cases (4%) showed less than one-third anterior cortex thickness contact, and 3 cases (6%) were located posteriorly with no contact. For the proximal nail-tail level, there were no protrusions over the greater trochanter in 15 cases (30%), protrusion of less than 5mm in 29 cases (58%), and protrusion of more than 5mm in 6 cases (12%). The fitness was very high, as 96% cases showed no tip-cortex contact, and 88% cases showed less than 5mm proximal tail protrusion.CONCLUSIONThe newly designed femoral intertrochanteric nail has a good geometric match with the femur medullary canal and the proximal length in the Chinese population.

Emergency medicine in the extreme geriatric era: A retrospective analysis of patients aged in their mid 90s and older in the emergency department.

Author(s): Müller, Martin; Ricklin, Meret E; Weiler, Stefan; Exadaktylos, Aristomenis K

Source: Geriatrics & gerontology international; Nov 2017

Publication Type(s): Journal Article

Abstract:AIMIn the coming years, older individuals will comprise an increasing share of emergency department (ED) admissions, due to the unprecedented and continuing demographic changes. The primary aim of the present study was to identify causes and risk factors for ED admission and hospitalizations in the oldest old.METHODSWe analyzed data of consecutive patients aged in their mid 90s and older (aged ≥94 years) admitted to the ED department of the University Hospital of Bern, Bern, Switzerland, between 2000 and 2010. Using multivariate logistic regression, we explored relevant demographic and clinical characteristics of patients visiting the ED, in association with hospitalization and fractures.RESULTSA total of 352 ED admissions occurred during the study period. The majority of patients (85%) were admitted from home, and most (63%) admissions resulted in hospitalization. Hospital admissions were frequently related to injuries from falls (42%). Risk factors for hospitalization were fractures, the number of comorbidities (measured by the Charlson Comorbidity Index) and hypertension. Major risk factors for fractures were female sex, benzodiazepine use and the diagnosis of dementia.CONCLUSIONSMost ED visits of older adults aged in their mid 90s and older were due to falls and fractures, and resulted in hospitalization. The present findings clearly emphasize the need for further investigations of drug prescription patterns and fracture prevention in such patients. Geriatr Gerontol Int 2017; ••: ••-••.

Admission of elderly blunt thoracic trauma patients directly to the intensive care unit improves outcomes.

Author(s): Pyke, Owen J; Rubano, Jerry A; Vosswinkel, James A; McCormack, Jane E; Huang, Emily C

Source: The Journal of surgical research; Nov 2017; vol. 219 ; p. 334-340

Publication Type(s): Journal Article

Abstract:INTRODUCTIONBlunt thoracic trauma in the elderly has been associated with adverse outcomes. As an internal quality improvement initiative, direct intensive care unit (ICU) admission of nonmechanically ventilated elderly patients with clinically important thoracic trauma (primarily multiple rib fractures) was recommended.METHODSA retrospective review of the trauma registry at a level 1 trauma center was performed for patients aged ≥65 y with blunt thoracic trauma, admitted between the 2 y before (2010-2012) and after (2013-2015) the recommendation.RESULTSThere

were 258 elderly thoracic trauma admissions post-recommendation (POST) and 131 admissions pre-recommendation (PRE). Their median Injury Severity Score (13 versus 12, P = ns) was similar. The POST group had increased ICU utilization (54.3% versus 25.2%, P < 0.001). The POST group had decreased unplanned ICU admissions (8.5% versus 13.0%, P < 0.001), complications (14.3% versus 28.2%, P = 0.001), and ICU length of stay (4 versus 6 d, P = 0.05). More POST group patients were discharged to home (41.1% versus 27.5%, P = 0.008). Of these, the 140 POST and 33 PRE patients admitted to the ICU had comparable median Injury Severity Score (14 versus 17, P = ns) and chest Abbreviated Injury Score ≥3 (66.4% versus 60.6%, P = ns). The POST-ICU group redemonstrated the above benefits, as well as decreased hospital length of stay (10 versus 14 d, P = 0.03) and in-hospital mortality (2.9% versus 15.2%, P = 0.004).CONCLUSIONSAdmission of geriatric trauma patients with clinically important blunt thoracic trauma directly to the ICU was associated with improved outcomes.

Mortality and cardiorespiratory complications in trochanteric femoral fractures: a ten year retrospective analysis.

Author(s): Carow, Juliane; Carow, John Bennet; Coburn, Mark; Kim, Bong-Sung; Bücking, Benjamin

Source: International orthopaedics; Nov 2017; vol. 41 (no. 11); p. 2371-2380

Publication Type(s): Journal Article

Abstract:PURPOSEDespite intense research and innovations in peri-operative management, a high mortality rate and frequent systemic complications in trochanteric femoral fractures persist. The aim of the present study was to identify predictive factors for mortality and cardio-respiratory complications after different treatment methods in a ten year period at a level I trauma centre.METHODSRetrospectively, all patients above 60 years of age with trochanteric femoral fracture between January 2000 and May 2011 were analyzed at a level I trauma centre. Demographic variables, comorbidities, and data regarding the surgical procedures, including required transfusions and post-operative complications, were evaluated, and the in-hospital mortality was recorded. The grade of osteoporosis was classified radiographically using the Singh index.RESULTSThe in-hospital mortality rate was 8.2% among 437 patients (male/female ratio = 110/327, mean age = 81 years) with extramedullary open (n = 144), intramedullary (n = 166), and extramedullary minimally invasive (n = 125) procedures. Significant influential factors on in-hospital mortality were identified with binary logistic regression analysis: an age of ≥90 years (P = 0.011), male sex (P = 0.003), a high American Society of Anesthesiologists (ASA) grade (3-5, P = 0.042), and a high osteoporosis grade (Singh index 3-1, P = 0.011). A total of 21.5% of the study population suffered cardio-respiratory complications post-operatively. The specific mortality was 28.7% (P < 0.001), which was influenced by a high ASA grade (3-5, P = 0.002) and a high transfusion rate (P = 0.004). Minimally invasive locked plating was associated with increased cardio-respiratory complications (P = 0.031).CONCLUSIONSThis study identified high patient age, distinctive comorbidities, male sex, and high osteoporosis grade as significant risk factors for increased in-hospital mortality in the treatment of trochanteric femoral fractures. Furthermore, high ASA grade and a liberal transfusion regime led to an increased incidence of cardio-respiratory complications. Patient-specific characteristics, especially osteoporosis grade and pre-existing medical conditions, may assist in the identification of high-risk patients and allow a patient-specific geriatric co-management plan.

Osteosarcopenia: A new geriatric syndrome.

Author(s): Hassan, Ebrahim Bani; Duque, Gustavo

Source: Australian family physician; Nov 2017; vol. 46 (no. 11); p. 849-853

Publication Type(s): Journal Article

Available at Australian family physician - from ProQuest (Hospital Premium Collection) - NHS Version

Abstract:BACKGROUNDLongevity, the increase in the ageing population and a lifestyle of minimal physical activity come with a hefty price. Consequently, two diseases are increasingly becoming a concern for the welfare of patients and the health industry: osteoporosis and sarcopenia. These conditions are usually interrelated through several mechanisms and metabolic pathways, and comprise a syndrome called osteosarcopenia.OBJECTIVEAs patients with osteosarcopenia represent an important subset of frail individuals at higher risk of institutionalisation, falls and fractures, the aim of this review is to further familiarise general practitioners with osteosarcopenia as a new geriatric syndrome that requires early diagnosis and effective therapeutic interventions.DISCUSSIONThe most important aspects of osteosarcopenia are discussed here. These include pathogenesis, prevalence, diagnostic criteria, management and follow-up. Finally, the role of multidisciplinary clinics for the care of patients with osteosarcopenia is discussed in brief.

Comparative Associations Between Measures of Anti-cholinergic Burden and Adverse Clinical Outcomes.

Author(s): Hsu, Wen-Han; Wen, Yu-Wen; Chen, Liang-Kung; Hsiao, Fei-Yuan

Source: Annals of family medicine; Nov 2017; vol. 15 (no. 6); p. 561-569

Publication Type(s): Journal Article

Available at Annals of family medicine - from EBSCO (MEDLINE Complete)

Abstract:PURPOSENo consensus has been reached regarding which anticholinergic scoring system works most effectively in clinical settings. The aim of this population-based cohort study was to examine the association between anticholinergic medication burden, as defined by different scales, and adverse clinical outcomes among older adults.METHODSFrom Taiwan's Longitudinal Health Insurance Database, we retrieved data on monthly anticholinergic drug use measured by the Anticholinergic Risk Scale (ARS), the Anticholinergic Cognitive Burden Scale (ACB), and the Drug Burden Index - Anticholinergic component (DBI-Ach) for 116,043 people aged 65 years and older during a 10-year follow-up. For all 3 scales, a higher score indicates greater anticholinergic burden. We used generalized estimating equations to examine the association between anticholinergic burden (ARS and ACB: grouped from 0 to ≥4; DBI-Ach: grouped as 0, 0-0.5, and 0.5-1) and adverse outcomes, and stratified individuals by age-group (aged 65-74, 75-84, and ≥85 years).RESULTSCompared with the ARS and DBI-Ach, the ACB showed the strongest, most consistent dose-response relationships with risks of all 4 adverse outcomes, particularly in people aged 65 to 84 years. For example, among those 65 to 74 years old, going from an ACB score of 1 to a score of 4 or greater, individuals' adjusted odds ratio increased from 1.41 to 2.25 for emergency department visits; from 1.32 to 1.92 for all-cause hospitalizations; from 1.10 to 1.71 for fracture-specific hospitalizations; and from 3.13 to 10.01 for incident dementia.CONCLUSIONSCompared with the 2 other scales studied, the ACB shows good dose-response relationships between anticholinergic burden and a variety of adverse outcomes in older adults. For primary care and geriatrics clinicians, the ACB may be a helpful tool for identifying high-risk populations for interventions.

Morphological characteristics of bilateral insufficiency fractures of the sacrum in geriatric patients-a CT-and MRI-based analysis of 64 cases

Author(s): Klauke F.; Ullrich B.W.; Hofmann G.O.; Mendel T.; Schenk P.

Source: European Spine Journal; Nov 2017; vol. 26 (no. 11); p. 3003

Publication Type(s): Conference Abstract

Abstract: Introduction: Bilateral insufficiency fractures of the sacrum (BIFS) represent an increasing disease entity in geriatric patients and are frequently associated with pain-related immobility. In opposite to traumatic injuries of the sacrum, which are well understood, fracture morphology as well as pathomechanism of BIFS induced by osteoporotic bone rarefication contains several outstanding questions. Materials and Methods: In a 3-years period (2014 to 2016) 273 geriatric patients (> 65 years) with pelvic injuries were treated in our hospital. In 64 cases (23,4%) a BIFS was diagnosed O 80,2 years, male: n=5; female: n=59). 27 of these patients could not remember any associated trauma. The remainder described an inadequate rockfall event from stance or gait. CT and MRI images of these cases were analysed in the manner of characteristics in fracture morphology related to the extent of instability. Therefore, BIFS were classified as followed. Group 1: bilateral sacral fracture without transverse fracture component, and H-/U-fracture types with transverse fracture line (TFL) Group 2: sub S1 and Group 3: sub S2. Furthermore, BIFS were analysed according to Denis fracture zones of longitudinal fracture lines (LFL) and presence of any L5/S1 facett joint involvement (Isler) as well as any L5 transverse process avulsion. Moreover, we looked for additional lesions in the anterior pelvic ring. Sacra were classified according to dysplastic or normal shape using Mendel classification. Results: In our population 18 cases (28%) wer classified to Group 1, 34 (53%) to Group 2 and 12 (19%) to group 3. Longitudinal fracture lines were found predominantly in Denis Zone 1 at the level of the alar voids (Group 1: 88,8%, Group 2: 67,6%, Group 3: 58,3%). A L5/S1 facett joint involvement Ilser B/C could be verified in only 10 of 64 patients. In Group 1: 33,3%, Group 2: 50% and Group 3: 25% no avulsion of the L5 transverse process was detected, which would indicate a highgrade vertical instability. Conspicuously, group-related distribution showed dysplasic sacra only in Group 1 (38,9%) and 3 (33,3%). Discussion: BSIF are commonly interpreted as closed book injuries (AO/OTA: 61-B3.3) as a result of low velosity sidefall events of geriatric patients. However, most cases of BIFS display a TFL (U-/H-fracture type) similar to so called suizidal jumpers fractures (SJF) which are caused by a massive vertical load impact through the sacrum. In opposite to SJF, L5 transverse process avulsions are very rare. This could be explained by manner and duration of impacting load. SJF are caused byan onestage high-grade vertical loading to physiological pelvic bone. However, BIFS are the result of a repetitive physiological load successively affecting the osteoporotic pelvis. Hence, in opposite to SJF in BIFS overarching ligamentous structures primarily stay intact or just fail in later disease process. (Figure Presented).

Operative treatment of type II odontoid fractures in geriatric patients-a biomechanical comparison of a cement augmented odontoid screw with a posterior cervical instrumented fusion

Author(s): Schwarz F.; Liebsch C.; Berger-Roscher N.; Wilke H.J.; Kalff R.; Waschke A.

Source: European Spine Journal; Nov 2017; vol. 26 (no. 11); p. 3000

Publication Type(s): Conference Abstract

Abstract: Introduction: A type II odontoid fracture is one of the most fractures of the cervical spine in geriatric patients. The preferred treatment is still unclear. An odontoid screw treatment can preserve atlantoaxial motion, but it is known to have high rates of pseudarthrosis. A posterior cervical instrumented fusion (PCIF) has a higher rate of fusion combined with a limitation of cervical movement. The aim of this study was the comparison two different treatment options, a novel method with a cement augmented base of an odontoid screw in comparison with a PCIF. Material/Methods: In vivo we compared both methods including 8 specimens per group in numerous cyclic stress tests and range of motion (ROM) investigations. Afterwards a computer tomography of each specimen was done to relate the screw loosening. Median age of specimen was 81 years (range 68 - 92 years). The bone density, measured with a quantitative computer tomography, was similar in both groups (odontoid screw: 87.4 mg/cc K2HPO4; PCIF: 89.5 mg/cc K2PO4). Results: A significant higher ROM was detected in the odontoid screw group before and after the stress tests (pre: $p < 0.001$; post: $p < 0.05$). Results of the stress tests showed comparable screw loosening of both groups (amplitude: $p > 0.05$; reduction of specimen height: $p > 0.05$). A

computer tomography after the stress tests showed a higher screw loosening in the odontoid screw group. Discussion: A posterior cervical instrumented fusion has undisputed the highest stability in the therapy of an odontoid fracture. Similar results in stress tests could be shown in the cement augmented odontoid screw group. Additionally, material costs and intraoperative morbidity are lower and the ROM is higher with such a surgery. Therefore, this option should always be discussed in the treatment of a type II fracture with a low bone density.

Patient care and management

Femoral Neck Stress in Older Adults During Stair Ascent and Descent.

Author(s): Deng, Chen; Gillette, Jason C; Derrick, Timothy R

Source: Journal of applied biomechanics; Dec 2017 ; p. 1-28

Publication Type(s): Journal Article

Abstract:A detailed understanding of the hip loading environment is needed to help prevent hip fractures, minimize hip pain, rehabilitate hip injuries and design osteogenic exercises for the hip. The purpose of this study was to compare femoral neck stress during stair ascent and descent and to identify the contribution of muscles and reaction forces to the stress environment in mature adult subjects (n=17; age: 50-65 years). Motion analysis and inverse dynamics were combined with musculoskeletal modelling and optimization, then used as input to an elliptical femoral neck cross-section model to estimate femoral neck stress. Peak stress values at the two peaks of the bimodal stress curves (stress vs. time plot) were compared between stair ascent and descent. Stair ascent had greater compressive stress than descent during the first peak at the anterior (ascent: -18.0±7.9 MPa, descent: -12.9±5.4 MPa, p<0.001) and posterior (ascent: -34.4±10.9 MPa, descent: -27.8±10.1 MPa, p<0.001) aspects of the femoral neck cross section. Stair descent had greater tensile stress during both peaks at the superior aspect (ascent: 1.3±7.0 MPa, descent: 24.8±9.7 MPa, peak 1: p<0.001; ascent: 15.7±6.1 MPa, descent: 18.0±8.4 MPa, peak 2: p=0.028) and greater compressive stress during the second peak at the inferior aspect (ascent: -43.8±9.7 MPa, descent: -51.1±14.3 MPa, p=0.004). Understanding this information can provide a more comprehensive view of bone loading at the femoral neck for older population.

Comparison of 3 Frailty Instruments in a Geriatric Acute Care Setting in a Low-Middle Income Country.

Author(s): Lin, Sumika Mori; Aliberti, Márlon Juliano Romero; Fortes-Filho, Sileno de Queiroz;

Source: Journal of the American Medical Directors Association; Dec 2017

Publication Type(s): Journal Article

Abstract:OBJECTIVEComparison of frailty instruments in low-middle income countries, where the prevalence of frailty may be higher, is scarce. In addition, less complex diagnostic tools for frailty are important in these settings, especially in acutely ill patients, because of limited time and economic resources. We aimed to compare the performance of 3 frailty instruments for predicting adverse outcomes after 1 year of follow-up in older adults with an acute event or a chronic decompensated disease.DESIGNProspective cohort study.SETTINGGeriatric day hospital (GDH) specializing in acute care.PARTICIPANTSA total of 534 patients (mean age 79.6 ± 8.4 years, 63% female, 64% white) admitted to the GDH.MEASUREMENTSFrailty was assessed using the Cardiovascular Health Study (CHS) criteria, the Study of Osteoporotic Fracture (SOF) criteria, and the FRAIL (fatigue, resistance, ambulation, illnesses, and loss of weight) questionnaire. Monthly phone contacts were performed over the course of the first year to detect the following outcomes: incident disability, hospitalization, fall, and death. Multivariable Cox proportional hazard regression models were performed to evaluate the association of the outcomes with frailty as defined by the 3 instruments. In addition, we

compared the accuracy of these instruments for predicting the outcomes.RESULTSPrevalence of frailty ranged from 37% (using FRAIL) to 51% (using CHS). After 1 year of follow-up, disability occurred in 33% of the sample, hospitalization in 40%, fall in 44%, and death in 16%. Frailty, as defined by the 3 instruments was associated with all outcomes, whereas prefrailty was associated with disability, using the SOF and FRAIL instruments, and with hospitalization using the CHS and SOF instruments. The accuracy of frailty to predict different outcomes was poor to moderate with area under the curve varying from 0.57 (for fall, with frailty defined by SOF and FRAIL) to 0.69 (for disability, with frailty defined by CHS).CONCLUSIONSIn acutely ill patients from a low-middle income country GDH acute care unit, the CHS, SOF, and FRAIL instruments showed similar performance in predicting adverse outcomes.

Standardised pre-operative diagnostics and treatment of peripheral arterial disease reduce wound complications in geriatric ankle fractures.

Author(s): Aigner, René; Lechler, Philipp; Boese, Christoph Kolja; Bockmann, Benjamin

Source: International orthopaedics; Dec 2017

Publication Type(s): Journal Article

Abstract:PURPOSEThe aim of this study was to evaluate a standardised algorithm to assess and treat impaired limb perfusion prior to surgical fixation of geriatric ankle fractures and determine the prevalence of peripheral arterial disease (PAD) in geriatric patients presenting with ankle fractures.METHODSEighty-four patients >65 years pre-operatively diagnosed and treated according to an algorithm (study group) were compared with 84 patients diagnosed and treated before the algorithm was introduced (control group).RESULTSIn 14 patients of the study group, clinical noninvasive examination revealed signs of relevant PAD, which was confirmed with computed tomographic angiography (CTA) in nine patients, all of whom had successful angioplasty prior to surgical fixation of the ankle fracture. In three of these patients, PAD had previously been diagnosed. After standardised diagnostics and treatment of malperfusion, a significantly reduced overall and, particularly, wound complication rate was found.CONCLUSIONPAD is an underdiagnosed condition in geriatric patients presenting with ankle fractures. This study underlines the relevance of limb perfusion for adequate wound healing in geriatric ankle fractures. Therefore, special attention should be paid to diagnose and-if indicated-optimise limb perfusion prior to surgical fixation of geriatric ankle fractures.

Is prescribed lower extremity weight-bearing status after geriatric lower extremity trauma associated with increased mortality?

Author(s): Gitajn, Ida Leah; Connelly, Daniel; Mascarenhas, Daniel; Breazeale, Stephen

Source: Injury; Dec 2017

Publication Type(s): Journal Article

Abstract:OBJECTIVESEvaluate whether mortality after discharge is elevated in geriatric fracture patients whose lower extremity weight-bearing is restricted.DESIGNRetrospective cohort study SETTING: Urban Level 1 trauma center PATIENTS/PARTICIPANTS: 1746 patients >65 years of age INTERVENTION: Post-operative lower extremity weight-bearing status MAIN OUTCOME MEASURE: Mortality, as determined by the Social Security Death Index RESULTS: Univariate analysis demonstrated that patients who were weight-bearing as tolerated on bilateral lower extremities (BLE) had significantly higher 5-year mortality compared to patients with restricted weight-bearing on one lower extremity and restricted weight-bearing on BLE (30%, 21% and 22% respectively, $p < 0.001$). Cox regression analysis controlling for variables including age, Charlson Comorbidity Index, Injury Severity Scale, combined UE/LE injury, injury mechanism (high vs low), sex, BMI and GCS demonstrated that, in comparison to patients who were weight bearing as tolerated on BLE,

restricted weight-bearing on one lower extremity had a hazard ratio (HR) of 0.97 (95% confidence interval 0.78 to 1.20, p = 0.76) and restricted weight-bearing in BLE had a HR of 0.91 (95% confidence interval 0.60 to 1.36, p = 0.73).CONCLUSIONSIn geriatric patients, prescribed weight-bearing status did not have a statistically significant association with mortality after discharge, when controlling for age, sex, body mass index, medical comorbidities, Injury Severity Scale (ISS), mechanism of injury, nonoperative treatment and admission GCS. This remained true in when the analysis was restricted to operative injuries only.

Older Adults With Hip Arthroplasty: An Individualized Transitional Care Program.

Author(s): Ko, YoungJi; Lee, JuHee; Oh, EuiGeum; Choi, MoNa; Kim, ChangOh; Sung, KiWol;

Source: Rehabilitation nursing : the official journal of the Association of Rehabilitation Nurses; Dec 2017

Publication Type(s): Journal Article

Abstract:BACKGROUNDMost older adults with hip fracture surgery experience functional decline (FD), causing devastating outcomes. However, few studies have examined the effects of nursing interventions to reduce FD for them.PURPOSEThe aim of the study was to evaluate an individualized transitional care program (ITCP) to reduce FD for older adults with hip arthroplasty.METHODSThe study was quasiexperimental, with a nonequivalent control group design. A total of 37 participants scheduled for hip arthroplasty were recruited-21 in the experimental and 16 in the control group.FINDINGSTwo weeks following surgery (i.e., just prior to discharge), the ITCP group displayed less fear of falling than the usual care group. Moreover, the experimental group displayed objectively less FD with increased activities of daily living and Timed Up and Go scores, 6 weeks after hip arthroplasty.CONCLUSIONSThis study provides evidence of the effectiveness of nurse-led rehabilitative practices to reduce FD in older adults with hip arthroplasty.CLINICAL RELEVANCEThe ITCP promoted individual physical functioning for older adults with hip arthroplasty. This study results can aid healthy transitions of elderly patients with other various diseases.

Sex differences in response to targeted kyphosis specific exercise and posture training in community-dwelling older adults: a randomized controlled trial.

Author(s): Katzman, Wendy B; Parimi, Neeta; Gladin, Amy; Poltavskiy, Eduard A; Schafer, Anne L

Source: BMC musculoskeletal disorders; Dec 2017; vol. 18 (no. 1); p. 509

Publication Type(s): Journal Article

Available at BMC musculoskeletal disorders - from EBSCO (MEDLINE Complete)

Abstract:BACKGROUNDHyperkyphosis, an excessive anterior curvature in the thoracic spine, is associated with reduced health status in older adults. Hyperkyphosis is highly prevalent, more common in older women than men. There is no standard intervention to reduce age-related hyperkyphosis. Sex differences in response to a kyphosis-specific exercise intervention are not known. **[ABSTRACT EDITED]**

Patient involvement in own rehabilitation after early discharge.

Author(s): Hørdam, Britta; Boolsen, Merete Watt

Source: Scandinavian journal of caring sciences; Dec 2017; vol. 31 (no. 4); p. 859-866

Publication Type(s): Journal Article

Abstract:BACKGROUNDA European Union Commission report in 2015 concluded that the concept of patient involvement refers specially to the right of patients to have a central position in the healthcare process (EU Commission 2012,

http://ec.europa.eu/public_opinion/archives/quali/ql_5937_patient_en.pdf). Recent research suggests that patient involvement after hip replacement is a very effective strategy in older adults with regard to improving walking ability and reducing pain and thereby lessening loss of physical, mental and social aspects of the quality of life. The growing number of older adults all over the world will increase the need for hip surgery.HYPOTHESISOlder adults' involvement in own rehabilitation improves their health and quality of life after hip replacement.AIMTo involve and coach older adults with a hip replacement to self-care after early discharge in transition between hospital and home. **[ABSTRACT EDITED]**

Optimization of perioperative management of proximal femoral fracture in the elderly.

Author(s): Merloz, P

Source: Orthopaedics & traumatology, surgery & research : OTSR; Dec 2017

Publication Type(s): Journal Article Review

Abstract: Proximal femoral fracture in elderly subjects is a major event that is life-threatening in the medium-to-long term. Advanced age, male gender and number of comorbidities largely account for high mortality and require geriatric expertise. Protein-energy malnutrition and bone demineralization increase mortality. Mortality can, on the other hand, be reduced by acting on two variables accessible to medical intervention: daily activities and nutritional status. Functional and neurocognitive assessment allow the risk of dependency to be evaluated, and global geriatric work-up can prevent sudden breakdown of homeostasis. In the emergency setting, pain is to be alleviated, polymedication and anticoagulation therapy checked, and instability (notably cardiac and pulmonary) and confusion syndrome screened for on geriatric and anesthesiologic opinions. Surgery should be implemented without delay, within 48hours of admission, preferably using multimodal anesthesia. The technique should be geared to allow early weight-bearing and mobilization. The most comprehensive care plan involves team-work between emergency physicians, surgeons, orthopedic specialists, anesthesiologists, geriatricians, pharmacists, rehabilitation specialists and nursing staff, to reduce mortality and readmission and improve functional results. Post-fracture coordination seeks to prevent falls and further fractures and to treat bone demineralization.

Functional Outcomes of Elderly Patients With Nonoperatively Treated Acetabular Fractures That Meet Operative Criteria.

Author(s): Ryan, Scott P; Manson, Theodore T; Sciadini, Marcus F; Nascone, Jason W

Source: Journal of orthopaedic trauma; Dec 2017; vol. 31 (no. 12); p. 644-649

Publication Type(s): Journal Article

Abstract:OBJECTIVESTo report functional outcomes of displaced acetabular fractures treated nonoperatively in the geriatric patient population.DESIGNRetrospective case series.SETTINGTwo Level I trauma centers.PATIENTSTwenty-seven patients 60 years of age or older who sustained displaced acetabular fractures during an 11-year period.INTERVENTIONNonoperative treatment.MAIN OUTCOME MEASUREMENTSPrimary outcome measurements were Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC) scores and Short Form 8 (SF-8) scores. Secondary outcome measurements were conversion to open reduction and internal fixation or total hip arthroplasty and 1-year mortality.RESULTSTwenty-six patients completed the WOMAC and SF-8 surveys. The overall WOMAC score was 12.9 ± 15.6 (range, 0-59.4). The average physical SF-8 was 51.1 ± 8.7 (range, 30.4-58.6), and the average mental SF-8 was 55 ± 6.2 (range, 30.4-58.6). The 1-year mortality rate was 24%. Conversion of treatment occurred in 15% of patients.CONCLUSIONSElderly patients with fracture patterns that would qualify for operative treatment in younger healthy patients had surprisingly good outcome scores when treated

nonoperatively.LEVEL OF EVIDENCETherapeutic Level IV. See Instructions for Authors for a complete description of levels of evidence.

The value of musculoskeletal ultrasound in geriatric care and rehabilitation.

Author(s): Can, Büşra; Kara, Murat; Kara, Özgür; Ülger, Zekeriya; Frontera, Walter R; Özçakar, Levent

Source: International journal of rehabilitation research. Internationale Zeitschrift fur Rehabilitationsforschung. Revue internationale de recherches de readaptation; Dec 2017; vol. 40 (no. 4); p. 285-296

Publication Type(s): Journal Article

Abstract: The WHO reports that one of the major chronic conditions affecting the elderly worldwide is musculoskeletal disorders that are associated with long-term pain and disability. Considering the healthcare needs of the elderly (i.e. comprehensive, accessible, efficient) and the advantages of ultrasound (US) use (patient-friendly, convenient, cost-effective, and does not require exposure to radiation or magnetic fields), there seems to be a 'gap' in the actual clinical practice. In this paper, we aimed to highlight the potential value of US imaging in the management of the elderly with a wide spectrum of musculoskeletal conditions (degenerative/rheumatic joint diseases, falls/trauma, nursing care, peripheral nerve problems, sarcopenia, and interventions). In this respect, electronic databases (ISI Web of Science, PubMed, Elsevier Science Direct) and reference lists of relevant articles/reviews were screened by two blinded investigators for each topic. The main medical subject heading terms selected to capture the most relevant papers on the topics in accordance with the literature were knee/hip/hand osteoarthritis, prevalence, rotator cuff injury, lateral epicondylitis, tendinopathy, rheumatoid arthritis, Sjogren's syndrome, polymyalgia rheumatica, crystal arthropathies, gout, pseudogout, carpal tunnel syndrome, fall, fractures, hematoma, pressure ulcer, ultrasonography, interventional, sarcopenia, body composition, rehabilitation, frail elderly, and aged. The search was limited to peer-reviewed full-text English journals starting from the earliest papers to May 2017. A study population (or part of the study population) of adults older than 65 years (if possible) was included. We especially underscore the use of US by clinicians as an extension of their physical examination or as a practical guide for an immediate intervention.

Incidence of bone protection and associated fragility injuries in patients with proximal femur fractures.

Author(s): Aguado-Maestro, Ignacio; Panteli, Michalis; García-Alonso, Manuel

Source: Injury; Dec 2017; vol. 48

Publication Type(s): Journal Article

Abstract:OBJECTIVESOur aim was to investigate whether patients presenting with fragility fractures of the proximal femur are receiving osteoporosis treatment and to assess the number of other fragility fractures they have sustained prior to admission. **[ABSTRACT EDITED]**

Geriatric fracture centers-improved patient care and economic benefits : English Version.

Author(s): Kelly, M; Kates, S L

Source: Der Unfallchirurg; Dec 2017; vol. 120 ; p. 1-4

Publication Type(s): Journal Article

Abstract: The world's population is aging resulting in changes in the way we manage geriatric care. Furthermore, this population has a considerable risk of fragility fractures, most notably hip fractures. Hip fractures are associated with significant morbidity and mortality and have large economic consequences. It is due to these factors that the concept of an elderly trauma center was developed.

These trauma centers utilize the expertise in orthopedic and geriatric disciplines to provide coordinated care to the elderly hip fracture patient. As a result, studies have demonstrated improvements in clinical outcomes within the hospital stay, a reduction in iatrogenic complications, and improvements in 1-year mortality rates compared to the usual care given at a similar facility. Furthermore, economic models have demonstrated that there is a role for regionalized hip fracture centers that can be both profitable and provide more efficient care to these patients.

Quality assurance of falls reduction in an orthopaedic ward using a novel bedside trolley table set-up strategy.

Author(s): Chan, Shuang Quan; Wadsley, Marianne; Ferriere, Sue

Source: Australasian journal on ageing; Dec 2017; vol. 36 (no. 4); p. 318-323

Publication Type(s): Journal Article

Abstract:OBJECTIVETo assess whether a novel bedside trolley table set-up decreased inpatient falls (IF) postintervention.METHODSFrom December 2012 to December 2014, geriatric patients admitted to our orthopaedic ward with extreme falls risk had a bedside trolley placed between them and a floor sensor mat to give responders more time to prevent IF. Pre- and postintervention falls data was reviewed for falls reduction using falls per month as comparison standard. IF were classified as high or low/medium risk using St Thomas's Risk Assessment Tool In Falling Elderly inpatients (STRATIFY) scoring.RESULTSSixty-two of 134 falls fulfilled inclusion criteria. The high-risk group had 33 patients preintervention and 22 patients postintervention, with falls per month at 3.4 preintervention and 1 postintervention. IF reduction was 71% in STRATIFY ≥17 versus 44% in STRATIFY <17.CONCLUSIONSThe novel set-up with appropriate assessment may decrease falls in the high-risk ortho-geriatric population. Further trials are warranted to confirm its effectiveness.

Maximum Tolerated Dose of Walking for Community-Dwelling People Recovering From Hip Fracture: A Dose-Response Trial.

Author(s): Peiris, Casey; Shields, Nora; Kingsley, Michael; Yeung, Jack; Hau, Raphael; Taylor, Nicholas

Source: Archives of physical medicine and rehabilitation; Dec 2017; vol. 98 (no. 12); p. 2533-2539

Publication Type(s): Clinical Trial, Phase I Journal Article

Abstract:OBJECTIVETo determine how much moderate-intensity physical activity, in the form of walking, could be prescribed for people living in the community after hip fracture in terms of safety, tolerability, and feasibility.DESIGNPhase I dose-response design.SETTINGPublic community rehabilitation centers.PARTICIPANTSCommunity-dwelling adults (N=21; 16 women; mean age, 75±9y) who were cognitively alert, attending community rehabilitation after hip fracture (mean days postfracture, 110±47d), able to walk with or without a gait aid, and for whom it was safe to participate in physical activity.INTERVENTIONSIndividually supervised doses of moderate-intensity walking completed in 1 week in addition to their usual levels of physical activity. Three participants were required to complete a dose of walking before dose escalation for the next cohort of 3 participants. Dose escalation ceased when >1 participant in a cohort had an adverse event or was unable to tolerate the dose or if the maximum dose of 150min/wk was achieved.MAIN OUTCOME MEASURESMaximum tolerated dose of walking per week (in minutes), adverse events, mobility, and walking confidence.RESULTSThe maximum tolerated dose of walking for adults after hip fracture before significant discomfort was experienced (eg, breathlessness, pain, and fatigue) by any participant was 100min/wk. No adverse events occurred, but participants began to be unable to tolerate higher doses beyond 100min/wk.CONCLUSIONSThis provides preliminary evidence that community-dwelling older adults recovering from hip fracture can complete a sufficient amount of moderate-intensity physical

Hip and knee arthroplasty are common among patients with transthyretin cardiac amyloidosis, occurring years before cardiac amyloid diagnosis: can we identify affected patients earlier?

Author(s): Rubin, Jonah; Alvarez, Julissa; Teruya, Sergio; Castano, Adam; Lehman, Ronald A

Source: Amyloid : the international journal of experimental and clinical investigation : the official journal of the International Society of Amyloidosis; Dec 2017; vol. 24 (no. 4); p. 226-230

Publication Type(s): Journal Article

Abstract: Transthyretin cardiac amyloidosis (ATTR-CA) causes a restrictive cardiomyopathy in older adults, often diagnosed at advanced stages when emerging therapies in late phase clinical trials may not have clinical benefit. This investigation aimed to detect clinical entities that may provide more advanced warning of ATTR-CA. Since ATTR preferentially deposits in ligaments, tendons, and articular cartilage, we hypothesized that ATTR-CA patients have a greater prevalence of total hip (THA) and knee (TKA) arthroplasties compared with the general population, and that arthroplasty occurs significantly before ATTR-CA diagnosis. Three-hundred and thirteen patients with cardiac amyloidosis (172 with ATTR-CA, 141 with light-chain) from our institutional database were analyzed and compared to published data in over 300 million patients. Overall, 23.3% of patients with ATTR-CA and 9.2% of patients with light-chain cardiac amyloidosis (AL-CA) underwent lower extremity arthroplasty. Compared to the general population, both THA and TKA were significantly more common among patients with ATTR-CA (THA: RR 5.61, 95% CI 2.25-4.64; TKA: RR 3.32, 95% CI 2.25-4.64) but not those with AL-CA (THA: RR 1.87, 95% CI 0.85-4.08; TKA: RR 1.42, 95% CI 0.73-2.84). On an average, arthroplasty occurred 7.2 years before ATTR-CA diagnosis.

The Effect of an In-Hospital Comprehensive Geriatric Assessment on Short-Term Mortality During Orthogeriatric Hip Fracture Program-Which Patients Benefit the Most?

Author(s): Pajulammi H.M.; Nuotio M.S.; Pihlajamaki H.K.; Jousmaki J.J.; Jokipii P.H.; Luukkaala T.H.

Source: Geriatric Orthopaedic Surgery and Rehabilitation; Dec 2017; vol. 8 (no. 4); p. 183-191

Publication Type(s): Article

Available at Geriatric Orthopaedic Surgery and Rehabilitation - from Europe PubMed Central - Open Access

Abstract: Aims: To examine the association of patient-related factors with the effect of an in-hospital comprehensive geriatric assessment (CGA) on hip fracture mortality. Methods: Population-based, prospective data were collected on 1425 consecutive hip fracture patients aged >=65 in a central hospital providing orthogeriatric service. Outcome was mortality at 1 month after hip fracture associated with receiving versus not receiving CGA. Results: Of the patients receiving CGA compared to those who did not, 8.5% versus12.0% had died within 1 month of the hip fracture (P =.028). In the age- and sex-adjusted Cox proportional hazards model, CGA was associated with a decreased risk of 1-month mortality in patients aged 80 to 89 years (hazard ratio [HR] 0.46, 95% confidence interval [CI]: 0.29-0.73), females (HR: 0.57, 95% CI: 0.38-0.86), having American Society of Anesthesiologists (ASA) score 1 to 3 (HR: 0.60, 95% CI: 0.37-0.99), taking 4 to 10 daily medications (HR: 0.59, 95% CI: 0.38-0.91), with a diagnosis of memory disorder (HR: 0.50, 95% CI: 0.29-0.88), with an estimated glomerular filtration rate <30 mL/min/1.73m2 (HR: 0.28, 95% CI: 0.10-0.76), or living in an assisted living accommodation (HR: 0.40, 95% CI: 0.21-0.76). Conclusion: Several modifiable and patient-related factors were associated with decreased risk of 1-month mortality when CGA was performed during hospitalization for hip fracture. Between "younger and fitter" and "oldest and frailest," there is a large group of hip fracture patients whose survival can be improved by in-hospital CGA.

Pressure ulcers are associated with 6-month mortality in elderly patients with hip fracture managed in orthogeriatric care pathway

Author(s): Magny E.; Vallet H.; Cohen-Bittan J.; Verny M.; Boddaert J.; Raux M.; Riou B.; Meziere A.

Source: Archives of Osteoporosis; Dec 2017; vol. 12 (no. 1)

Publication Type(s): Article

Abstract: Summary: Despite orthogeriatric management, 12% of the elderly experienced PUs after hip fracture surgery. PUs were significantly associated with a low albumin level, history of atrial fibrillation coronary artery disease, and diabetes. The risk ratio of death at 6 months associated with pressure ulcer was 2.38 (95% CI 1.31-4.32%, p = 0.044). Introduction: Pressure ulcers in hip fracture patients are frequent and associated with a poor outcome. An orthogeriatric management, recommended by international guidelines in hip fracture patients and including pressure ulcer prevention and treatment, could influence causes and consequences of pressure ulcer. However, remaining factors associated with pressure ulcer occurrence and prognostic value of pressure ulcer in hip fracture patients managed in an orthogeriatric care pathway remain unknown. Methods: From June 2009 to April 2015, all consecutive patients with hip fracture admitted to a unit for Post-operative geriatric care were evaluated for eligibility. Patients were included if their primary presentation was due to hip fracture and if they were >= 70 years of age. Patients were excluded in the presence of pathological fracture or if they were already hospitalized at the time of the fracture. In our unit, orthogeriatric principles are implemented, including a multi-component intervention to improve pressure ulcer prevention and management. Patients were followed-up until 6 months after discharge. Results: Five hundred sixty-seven patients were included, with an overall 14.4% 6-month mortality (95% CI 11.6-17.8%). Of these, 67 patients (12%) experienced at least one pressure ulcer. Despite orthogeriatric management, pressure ulcers were significantly associated with a low albumin level (RR 0.90, 95% CI 0.84-0.96; p = 0.003) and history of atrial fibrillation (RR 1.91, 95% CI 1.05-3.46; p = 0.033), coronary artery disease (RR 2.16, 95% CI 1.17-3.99; p = 0.014), and diabetes (RR 2.33, 95% CI 1.14-4.75; p = 0.02). A pressure ulcer was associated with 6-month mortality (RR 2.38, 95% CI 1.31-4.32, p = 0.044). Conclusion: In elderly patients with hip fracture managed in an orthogeriatric care pathway, pressure ulcer remained associated with poorly modifiable risk factors and long-term mortality.

Score Distributions of the Balance Outcome Measure for Elder Rehabilitation (BOOMER) in Community-Dwelling Older Adults With Vertebral Fracture.

Author(s): Brown, Zachary M; Gibbs, Jenna C; Adachi, Jonathan D; Ashe, Maureen C; Hill, Keith D

Source: Journal of geriatric physical therapy (2001); Nov 2017

Publication Date: Nov 2017

Publication Type(s): Journal Article

Abstract:BACKGROUND AND PURPOSEWe sought to evaluate the Balance Outcome Measure for Elder Rehabilitation (BOOMER) in community-dwelling women 65 years and older with vertebral fracture and to describe score distributions and potential ceiling and floor effects.METHODSThis was a secondary data analysis of baseline data from the Build Better Bones with Exercise randomized controlled trial using the BOOMER. A total of 141 women with osteoporosis and radiographically confirmed vertebral fracture were included. Concurrent validity and internal consistency were assessed in comparison to the Short Physical Performance Battery (SPPB). Normality and ceiling/floor effects of total BOOMER scores and component test items were also assessed. Exploratory analyses of assistive aid use and falls history were performed.RESULTS AND DISCUSSIONTests for concurrent validity demonstrated moderate correlation between total BOOMER and SPPB scores. The BOOMER component tests showed modest internal consistency. Substantial ceiling effect and nonnormal score distributions were present among overall sample and those not using assistive aids for total BOOMER scores, although scores were normally distributed

for those using assistive aids. The static standing with eyes closed test demonstrated the greatest ceiling effects of the component tests, with 92% of participants achieving a maximal score.CONCLUSIONSWhile the BOOMER compares well with the SPPB in community-dwelling women with vertebral fractures, researchers or clinicians considering using the BOOMER in similar or higher-functioning populations should be aware of the potential for ceiling effects.

Comprehensive geriatric assessment for identifying older people at risk of hip fracture: cross-sectional study with comparative group.

Author(s): Ramírez-Martín, Raquel; Castell Alcalá, María Victoria; Alarcón, Teresa; Queipo, Rocío

Source: Family practice; Nov 2017; vol. 34 (no. 6); p. 679-684

Publication Type(s): Journal Article

Abstract: BackgroundHip fracture (HF) is by far the most common serious fragility fracture. Its care is a major challenge to all healthcare systems.AimTo determine whether there are characteristics of older people identified via comprehensive geriatric assessment (CGA) that help identify those with an increased risk of HF.MethodsThe demographic, functional, cognitive and nutritional data of a cohort of patients admitted for acute HF were compared with those of a population cohort representing community-dwelling older people in the same urban district without HF. Bivariate analysis was performed on the variables in both the complete samples and in a subsample of age and sex paired subjects, followed by logistic regression analysis.ResultsA total of 509 HF patients and 1315 community-dwelling older people were included. The HF patients were older and more frequently women and had more frequent disability and cognitive impairment, lower handgrip strength, lower body mass index (BMI) and a higher frequency of vitamin D deficiency compared with the community controls ($P < 0.001$). The variables most strongly associated with the presence of HF in the multivariate analysis, aside from age and female sex, were BMI<22 kg/m2 [odds ratio (OR) = 5.11], disability (OR = 4.32), muscle weakness (OR = 3.01), and vitamin D deficiency (OR = 2.13).ConclusionsThere are easily obtained CGA determinants that are strongly associated with fragility HF. The detection of low weight, disability, malnutrition, muscle weakness, and vitamin D deficiency can help identify at-risk older people to implement prevention strategies.

Advantages of care for patients with hip fractures in the acute geriatric unit: Hip study Anoia.

Author(s): Duaso, Enric; Formiga, Francesc; Marimón, Patrícia; Sandiumenge, Montserrat;

Source: Geriatrics & gerontology international; Nov 2017

Publication Type(s): Journal Article

Abstract:AIMHip fracture as a result of bone fragility is characterized by poor health outcomes in the medium and long term. Our goal was to compare a new orthogeriatric model with the old trauma model and evaluate improvements in clinical management.METHODSWe carried out a comparative unicentric study, a historical sample (trauma model) collected from 1 June 2007 to 31 May 2010, versus a prospective sample (orthogeriatric model) collected from 1 June 2010 until 31 May 2013. We included all patients aged >69 years with hip fracture as a result of bone fragility.RESULTSA total of 792 patients were evaluated (mean age 84.3 years). The surgical waiting period went from 2.70 days in the trauma model to 1.86 days in the orthogeriatric model ($P < 0.001$); the average stay was 15.76 days in the trauma model, and for the orthogeriatric model was reduced to 5.90 days ($P < 0.001$); mortality went from 4.5% to 1.3% ($P \leq 0.010$); 1 month readmission for hip dislocation was reduced from 2.3% to 0.5% ($P = 0.032$). After a 6-month follow up, we had 302 trauma model patients and 287 orthogeriatric model patients. After 1 year, we had 288 patients in the trauma model and 264 patients in the orthogeriatric model. The main cause of abandonment was death, 108 patients (27.3%) in the trauma model and 100 patients (27.5%) in the orthogeriatric model ($P = 0.951$).CONCLUSIONSWhen we compared the two models, we found statistically significant

better results in the preoperative waiting period, average stay, hospital mortality and 1 month readmission as a result of hip prosthesis luxation in favor of the orthogeriatric model.

Treatment Trends in Older Adults With Midshaft Clavicle Fractures.

Author(s): Pang, Eric Quan; Zhang, Steven; Harris, Alex H S; Kamal, Robin N

Source: The Journal of hand surgery; Nov 2017; vol. 42 (no. 11); p. 875-882

Publication Type(s): Journal Article

Abstract:PURPOSEWe present a retrospective administrative claims database review examining the effect of recent literature supporting surgical clavicle fixation in a primarily young male population, on the treatment of midshaft clavicle fractures in patients older than 65 years. We tested the null hypothesis that there is no change in trends in surgical fixation of midshaft clavicle fractures in patients older than 65 years. Secondary analysis examined overall trends and trends based on sex.METHODSData from 2007 to 2012 were extracted using the Medicare Standard Analytic File and Humana administrative claim databases contained within the PearlDiver Patient Records Database. Patients with clavicle shaft fractures and their treatments were identified by International Classification of Disease, Ninth Revision, and Current Procedural Terminology codes. The primary response variable was the proportion of surgical to nonsurgical cases per year, and explanatory variables included age and sex. Data were analyzed using a trend in proportions test with significance set at P less than .05.RESULTSA total of 32,929 patients with clavicle shaft fractures were identified. During the study period, the proportion of clavicle shaft fractures treated surgically in patients older than 65 years (2.4%-4.6%) and younger than 65 years (11.2%-16.4%) showed a significant increasing trend. When analyzed by both sex and age, there was also an increasing trend in the proportion of surgically treated males in the older than 65 years (3.3%-6.2%) and the younger than 65 years groups (10.9%-19.5%). Lastly, there was an increase in the proportion of surgically treated females older than 65 years (1.7%-3.4%) and younger than 65 years (12.1%-14.3%).CONCLUSIONSOur analysis demonstrates an overall increase in the proportion of surgically treated clavicle shaft fractures, including in the male and female population older than 65 years. In the setting of an aging population, future research evaluating possible benefits of surgical intervention in this population is needed prior to adopting this practice pattern.TYPE OF STUDY/LEVEL OF EVIDENCEII.

Assessment of Knee Kinematics in Older Adults Using High-Speed Stereo Radiography.

Author(s): Kefala, Vasiliki; Cyr, Adam J; Harris, Michael D; Hume, Donald R; Davidson, Bradley S

Source: Medicine and science in sports and exercise; Nov 2017; vol. 49 (no. 11); p. 2260-2267

Publication Type(s): Journal Article

Abstract:PURPOSEQuantification of knee motion is essential for assessment of pathologic joint function, such as tracking osteoarthritis progression and evaluating outcomes after conservative or surgical treatment, including total knee arthroplasty. Our purpose was to establish a useful baseline for the kinematic envelope of knee motion in healthy older adults performing movements of daily living.METHODSA high-speed stereo radiography system was used to measure the three-dimensional tibiofemoral kinematics of eight healthy people over 55 yr of age (4 women/4 men; age, 61.7 ± 5.4 yr; body mass, 74.6 ± 7.7 kg; body mass index, 26.7 ± 4.4 kg·m; height, 168.2 ± 13.7 cm) during seated knee extension, level walking, pivoting, and step descent.RESULTSInternal-external and varus-valgus rotation and anterior-posterior range of motion through stance in normal walking averaged 3.6° ± 1.1°, 2.3° ± 0.6°, and 3.4 ± 1.57 mm, respectively. Average range of motion across subjects was greater during the step-down in both internal-external rotation (average, 6.5° ± 3.1°) and anterior-posterior translation (average, 4.5 ± 1.1). Average internal-external range of motion increased to 13.5° ± 3.6° during pivoting. Range of motion of the knee in varus-valgus rotation was

nearly the same for each subject across activities, rarely exceeding 6°.CONCLUSIONSPivoting and step descending during walking had greater internal-external rotation and anterior-posterior translation than normal gait. Internal-external rotation and anterior-posterior translation were shown to have greater activity dependence, whereas varus-valgus rotation was consistent across activities. These results were similar to prior measurements in younger cohorts, though a trend toward reduced range of motion in the older adults was observed.

Screening of the frail patient in the emergency department: A systematic review.

Author(s): Jørgensen, Rasmus; Brabrand, Mikkel

Source: European journal of internal medicine; Nov 2017; vol. 45 ; p. 71-73

Publication Type(s): Journal Article

Abstract:BACKGROUNDSeveral frailty rating scales have been developed to detect and screen for the level of frailty. It is uncertain what diagnostic value screening of frailty level have in the emergency department.AIMTo assess the accuracy of the screening tools used in the emergency department to detect frailty in patients≥65years by their ability to identify the risk of adverse outcomes.METHODSAn extensive medical literature search of Embase and PubMed was conducted, to identify studies using frailty screening scales in the emergency department. Data was subsequently extracted and evaluated from the results of the included studies.RESULTSFour studies met the exact inclusion criteria. Four different frailty screening scales: Clinical Frailty Scale, Deficit Accumulation Index, Identification of Seniors At Risk and The Study of Osteoporotic Fracture frailty index used in the emergency department were described and compared. Predictive values for various outcomes are represented and discussed.CONCLUSIONSThe results suggest that frailty successfully predicts increased risk of hospitalization, nursing home admission, mortality and prolonged length of stay after an initial emergency department visit. Frailty does however not predict increased risk of 30day emergency department revisit. Further research highlighting the value of screening for frailty level in elderly emergency department patients is needed.LEARNING POINTSAlthough frail elders in need of further geriatric assessment should be identified as soon as possible, this systematic review only identified four cohort studies of frailty assessment in emergency departments. Although frailty screening appeared to predict the risk of mortality and of admission to hospital/nursing home, these four studies did not show that it could predict return visits to emergency departments within 30days. Randomized clinical trials of frailty screening tools compared to usual care or other methods of assessment are clearly needed.

Views from health professionals on accessing rehabilitation for people with dementia following a hip fracture.

Author(s): Isbel, Stephen T; Jamieson, Maggie I

Source: Dementia (London, England); Nov 2017; vol. 16 (no. 8); p. 1020-1031

Publication Type(s): Journal Article

Abstract: The literature reports that rehabilitation for elderly patients with mild-to-moderate dementia who have a hip fracture improves functional outcomes. However, access to rehabilitation may be difficult due to misconceptions about the ability of these patients to engage in and benefit from rehabilitation. Additionally, people who are admitted from residential care may not have the same options for rehabilitation as those admitted from home. This study sought to understand from expert clinicians how and why decisions are made to accept a person with dementia post-fracture for rehabilitation. In this Australian-based qualitative study, 12 health professionals across a state and territory were interviewed. These clinicians were the primary decision makers in accepting or rejecting elderly patients with dementia post-fracture into rehabilitation. Three key themes emerged from the data: criteria for accessing rehabilitation, what works well and challenges to rehabilitation.

The participants were unanimous in the view that access to rehabilitation should be based on the ability of the patient to engage in a rehabilitation programme and not assessed solely on cognition. In terms of clinical care, a coherent rehabilitation pathway with integration of geriatric and ortho-geriatric services was reported as ideal. Challenges remain, importantly, the perception of some health care staff that people with dementia have limited capability to benefit from rehabilitation. Rehabilitation for this growing group of patients requires multiple resources, including skilled practitioners, integrated clinical systems and staff education regarding the capabilities of people with dementia. Future research in this area with patients with moderate-to-severe dementia in residential care is warranted.

Hospital-at-home Integrated Care Programme for the management of disabling health crises in older patients: comparison with bed-based Intermediate Care.

Author(s): Mas, Miquel À; Inzitari, Marco; Sabaté, Sergi; Santaeugènia, Sebastià J; Miralles, Ramón

Source: Age and ageing; Nov 2017; vol. 46 (no. 6); p. 925-931

Publication Type(s): Journal Article

Abstract: Objectiveto analyse the clinical impact of a home-based Intermediate Care model in the Catalan health system, comparing it with usual bed-based care.Designquasi-experimental longitudinal study.Settinghospital Municipal de Badalona and El Carme Intermediate Care Hospital, Badalona, Catalonia, Spain.Participantswe included older patients with medical and orthopaedic disabling health crises in need of Comprehensive Geriatric Assessment (CGA) and rehabilitation.Methodsa CGA-based hospital-at-home Integrated Care Programme (acute care and rehabilitation) was compared with a propensity score matched cohort of contemporary patients attended by usual inpatient hospital care (acute care plus intermediate care hospitalisation), for the management of medical and orthopaedics processes. Main outcomes measures were: (a) Health crisis resolution (referral to primary care at the end of the intervention); (b) functional resolution: relative functional gain (functional gain/functional loss) ≥ 0.35; and (c) favourable crisis resolution (health + functional) = a + b. We compared between-groups outcomes using uni/multivariable logistic regression models.Resultsclinical characteristics were similar between home-based and bed-based groups. Acute stay was shorter in home group: 6.1 (5.3-6.9) versus 11.2 (10.5-11.9) days, P < 0.001. The home-based scheme showed better results on functional resolution 79.1% (versus 75.2%), OR 1.62 (1.09-2.41) and on favourable crisis resolution 73.8% (versus 69.6%), OR 1.54 (1.06-2.22), with shorter length of intervention, with a reduction of -5.72 (-9.75 and -1.69) days.Conclusionsin our study, the extended CGA-based hospital-at-home programme was associated with shorter stay and favourable clinical outcomes. Future studies might test this intervention to the whole Catalan integrated care system.

Pre-discharge rehabilitation after hip surgery reduces 30-day readmissions in older adults: National Health Insurance Service-Senior Cohort (2007-2012)

Author(s): Bu N.; Kim B.S.; Choi H.; Kim S.; Won C.W.

Source: European Geriatric Medicine; Nov 2017; vol. 8 (no. 5); p. 430-434

Publication Type(s): Article

Abstract: Background Rehabilitation programs before and after hip surgery can shorten the length of hospital stay, reduce the incidence of complications, and reduce the readmission rate after surgery in older adults aged 65 years or over. The present study aimed to investigate the status of readmissions within 30 days after discharge and related factors in elderly people through the big data analysis using the sample data from the National Health Insurance Service-Senior Cohort (NHIS-SC). Method The subjects of the present study were patients aged 65 years or older who underwent hip surgery between 2007 and 2012. The subjects undergoing hip surgery included those who

underwent at least one surgery of the following during the period: replacement arthroplasty, revision arthroplasty, arthrodesis, internal fixation, reduction of fractured extremity and internal fixation. Each variable was selected for sociodemographic characteristics and clinical features of the subjects, and the characteristics of medical institutions according to 30-day readmission. Results Among 9008 study participants, 1628 (18.1%) were readmitted within 30 days. Lower readmission rate was associated with longer hospital stay, greater number of hospital beds, and rehabilitation before discharge; whereas a higher rate was associated with provincially located hospitals, getting of medical aid, accompanying fractures, ICU admission, and comorbidities. Conclusions Pre-discharge rehabilitation in patients aged >= 65 years who underwent hip surgery can reduce readmissions, and efforts to increase daily living functions such as muscle strength and walking ability are very important.

Association of comprehensive geriatric assessment with quality-related care practices during implementation and development of an orthogeriatric hip fracture program

Author(s): Pajulammi H.M.; Nuotio M.S.; Pihlajamaki H.K.; Jousmaki J.J.; Luukkaala T.H.

Source: European Geriatric Medicine; Nov 2017; vol. 8 (no. 5); p. 424-429

Publication Type(s): Article

Abstract: Introduction This study was performed to examine the association of a comprehensive geriatric assessment (CGA) with quality-related care practices during the implementation and development of an orthogeriatric hip fracture program. Materials and methods Population-based, prospective data were collected on 1644 consecutive hip fracture patients aged >= 65 years between September 2007 and December 2015. The outcome variables were delay from admission to surgery < 24 h, transfusion of red blood cells and removal of indwelling urinary catheter during the acute period of hospitalization. The adjustments used were age, sex, American Society of Anesthesiologists score, diagnosis of memory disease and prefracture living arrangements and mobility level. Results Since beginning the orthogeriatric program, performing the CGA (OR: 1.43, 95% CI 1.36-1.50), delay from admission to surgery < 24 h (OR: 1.06, 95% CI 1.02-1.11) and urinary catheter removal before discharge (OR: 1.51, 95% CI 1.43-1.58) increased significantly. In the adjusted analysis, interaction of CGA with follow-up time increased urinary catheter removal (OR: 10.0, 95% CI 7.34-13.7) and red blood cell transfusions (OR: 1.32, 95% CI 1.02-1.71), but had no effect on the delay to surgery (OR 1.07, 95% CI 0.83-1.38). Conclusions Implementation of an orthogeriatric program led to several quality improvements: more patients received CGA, underwent surgery within 24 h of admission, and had their urinary catheter removed during the acute period of hospitalisation. Administering the CGA was associated with prompt urinary catheter removal and increased red blood cell transfusions. The timing of surgery improved independent of the CGA.

Osteoporosis management in 2017: still thin and fragmented.

Author(s): Sheu, Angela; Lopes, Lorena Beatriz Ataide; Eisman, John; Center, Jacqueline R.

Source: Internal Medicine Journal; Nov 2017; vol. 47 (no. 11); p. 1329-2659

Publication Type(s): Academic Journal

Abstract: The article discusses a study focusing on the management of the osteoporosis skeletal disorder in 2017. Topics discussed include the high susceptibility to fractures in patients with osteoporosis; the admission of patients under study in various departments of the hospital including geriatrics, orthopaedics, and cardiology; and poor bone health in patients with osteoporosis.

Psychological

Factors Contributing to Memory of Acute Pain in Older Adults Undergoing Planned and Unplanned Hip Surgery.

Author(s): Halicka, Monika; Bąbel, Przemysław

Source: The Clinical journal of pain; Nov 2017

Publication Type(s): Journal Article

Abstract:OBJECTIVESPrevious research on pain memory provides inconsistent evidence about the accuracy of pain recall, and few studies have attempted to examine broad affective and contextual contributions to this phenomenon. The present research aimed to determine the accuracy of postoperative pain recall after a 3-months, with respect to the context of the surgery and the congruence of affective states concurrent with the initial experience and its recall. The study also aimed to identify predictors of remembered pain by analysing a range of sensory, cognitive and affective factors.METHODSOlder adults, undergoing planned (N=40) and unplanned hip surgery (N=31), were enrolled in this prospective study to investigate their pre-, post-surgery, and delayed ratings of expected, experienced, and recalled pain intensity and unpleasantness, state anxiety and positive and negative affect.RESULTSMemory of postoperative pain was found to be accurate, regardless of the context of the surgery. Affective states in the postoperative period were congruent with those during pain recall. The study also revealed that in planned surgery context, remembered pain was predicted by experienced postoperative pain, cognitive functions, positive and negative affect; whereas in unplanned surgery context its significant predictors included age, anxiety, negative and positive affect.DISCUSSIONThis study suggests that older orthopaedic patients remember postoperative pain correctly after 3 months and that mood dependence effect may contribute to memory of pain. Pain recall after planned surgery appears to depend mainly on the actual experience, while following unplanned surgery it depends on affective factors. Present findings contribute to scarce knowledge about pain memory in older adults and have implications for patients' recovery and best practice in perioperative hospital care.

Depressed patients feel more pain in the short term after total knee arthroplasty.

Author(s): Torres-Claramunt, Raúl; Hinarejos, Pedro; Amestoy, Jorge; Leal, Joan; Sánchez-Soler, Juan

Source: Knee surgery, sports traumatology, arthroscopy : official journal of the ESSKA; Nov 2017; vol. 25 (no. 11); p. 3411-3416

Publication Type(s): Journal Article

Abstract:PURPOSEThe hypothesis of this study was that depressive patients feel more pain in the immediate TKA postoperative period in comparison with non-depressed patients.METHODSThe diagnosis of depression was made with the Geriatric Depression Scale Short Form. The Visual Analogic Score (VAS) was registered each 8 h during the first 3 days. The mean and maximum VAS and the number of analgesic rescues required in this period were calculated in 803 consecutive TKAs. The Knee Society Score (KSS), the Western Ontario McMaster Universities Osteoarthritis Index (WOMAC), and the Short Form-36 (SF-36) scores were obtained preoperatively and at the 1-year follow-up.RESULTSForty-eight (6%) of these patients were considered depressed. The results obtained in the depressed patients and non-depressed were, respectively, mean VAS (2.0 vs 1.0, p = 0.00), maximum VAS (5.3 vs 1.6, p = 0.00), and number of rescues needed (4.4 vs 1.8, p = 0.00). Although depressed patients scored worse in the functional and quality of life scores in the preoperative period, the improvement obtained (1-year outcomes minus preoperative outcomes) in the different scores was similar in both groups with the exception of the mental domain of the SF-36, which improved further in depressed patients (p = 0.00).CONCLUSIONDepressed patients feel more pain in the immediate postoperative period. However, the improvement obtained in functional and referred quality of life scores is similar to non-depressed patients.LEVEL OF EVIDENCEII.

Relationship between hospitalization and functional and cognitive impairment in hospitalized older adults patients.

Author(s): Calero-García, María José; Ortega, Ana Raquel; Navarro, Elena; Calero, María Dolores

Source: Aging & mental health; Nov 2017; vol. 21 (no. 11); p. 1164-1170

Publication Type(s): Journal Article

Abstract:OBJECTIVESTo study changes in the cognitive status and dependency of patients aged over 65 years during hospitalization for bone fracture and how these changes relate to the total number of days of admission and absolute rest during hospitalization. Along with cognitive decline, musculoskeletal disorders are considered key factors in this patient population. As well as requiring hospital admission and/or surgical treatment, fractures increase the risk factors that contribute to disability and dependency in older adults.METHODA longitudinal case-series study with repeated follow-up assessments was conducted. The sample consisted of 259 older adults. The following tests were administered: Barthel index, Lawton-Brody's scale, Phototest, and informant questionnaire on cognitive decline in the elderly.RESULTSThe main variable which fosters functional dependency, cognitive decline, and functional loss and diminishes functional gain (both in the hospital and at home) is the number of days of bed rest during hospitalization.CONCLUSIONSThe present study reveals that the greater impact on levels of functional dependency and cognitive decline comes from the patient's days of bed rest in hospital, rather than the total days of hospitalization. These findings could be taken into consideration when discussing post-discharge functional recovery.

CE. Preoperative Risk Factors for Subsyndromal Delirium in Older Adults Who Undergo Joint Replacement Surgery.

Author(s): Denny, Dawn L.; Lindseth, Glenda

Source: Orthopaedic Nursing; Nov 2017; vol. 36 (no. 6); p. 402-413

Publication Type(s): Academic Journal

Abstract:BACKGROUND: Older adults with subsyndromal delirium have similar risks for adverse outcomes following joint replacement surgery as those who suffer from delirium. PURPOSE: This study examined relationships among subsyndromal delirium and select preoperative risk factors in older adults following major orthopaedic surgery. METHODS: Delirium assessments of a sample of 62 adults 65 years of age or older were completed on postoperative Days 1, 2, and 3 following joint replacement surgery. Data were analyzed for relationships among delirium symptoms and the following preoperative risk factors: increased comorbidity burden, cognitive impairment, fall history, and preoperative fasting time. RESULTS: Postoperative subsyndromal delirium occurred in 68% of study participants. A recent fall history and a longer preoperative fasting time were associated with delirium symptoms ($p \leq .05$). CONCLUSIONS: Older adults with a recent history of falls within the past 6 months or a longer duration of preoperative fasting time may be at higher risk for delirium symptoms following joint replacement surgery.

Other

Association Between Calcium or Vitamin D Supplementation and Fracture Incidence in Community-Dwelling Older Adults: A Systematic Review and Meta-analysis.

Author(s): Zhao, Jia-Guo; Zeng, Xian-Tie; Wang, Jia; Liu, Lin

Source: JAMA; Dec 2017; vol. 318 (no. 24); p. 2466-2482

Publication Type(s): Research Support, Non-u.s. Gov't Journal Article

Available at JAMA - from EBSCO (MEDLINE Complete)

Abstract: ImportanceThe increased social and economic burdens for osteoporosis-related fractures worldwide make the prevention of such injuries a major public health goal. Previous studies have reached mixed conclusions regarding the association between calcium, vitamin D, or combined calcium and vitamin D supplements and fracture incidence in older adults.ObjectiveTo investigate whether calcium, vitamin D, or combined calcium and vitamin D supplements are associated with a lower fracture incidence in community-dwelling older adults. **[ABSTRACT EDITED]**

Recreational Activity and Facial Trauma Among Older Adults.

Author(s): Plawecki, Andrea; Bobian, Michael; Kandinov, Aron; Svider, Peter F; Folbe, Adam J

Source: JAMA facial plastic surgery; Dec 2017; vol. 19 (no. 6); p. 453-458

Publication Type(s): Journal Article

Available at JAMA facial plastic surgery - from EBSCO (MEDLINE Complete)

Abstract: ImportanceAs the US population ages, public health agencies have released guidelines encouraging aerobic activity and muscle-strengthening exercises among older individuals. Facial trauma from such activities among elderly individuals has long been underappreciated.ObjectivesTo evaluate the incidence of recreational activity-associated facial fractures among older adults and to further delineate injury characteristics including demographics, fracture location, and specific activities **[ABSTRACT EDITED]**

"Brain-muscle loop" in the fragility of older persons: from pathophysiology to new organizing models.

Author(s): Lauretani, Fulvio; Meschi, Tiziana; Ticinesi, Andrea; Maggio, Marcello

Source: Aging clinical and experimental research; Dec 2017; vol. 29 (no. 6); p. 1305-1311

Publication Type(s): Journal Article

Abstract: AIM In this review, we want to emphasize the relationship between memory complaints with muscle function integrating cognitive and physical evaluation, even with amyloid PET study, to identify older patients at high risk of cognitive and physical decline. **[ABSTRACT EDITED]**

Hoffa Fragments in the Geriatric Distal Femur Fracture: Myth or Reality?

Author(s): Hill B.W.; Cannada L.K.

Source: Geriatric Orthopaedic Surgery and Rehabilitation; Dec 2017; vol. 8 (no. 4); p. 252-255

Publication Type(s): Article

Available at Geriatric Orthopaedic Surgery and Rehabilitation - from Europe PubMed Central - Open Access

Abstract: Background: Previous research reported the frequency of coronal plane (Hoffa) fractures in high-energy supracondylar femur fractures in a relatively young population. It is the purpose of this study to identify the frequency of coronal plane fractures seen in elderly patients. **[ABSTRACT EDITED]**

Exercise Frequency and Fracture Risk in Older Adults-How Often Is Enough?

Author(s): Kemmler, Wolfgang; von Stengel, Simon; Kohl, Matthias

Source: Current osteoporosis reports; Dec 2017; vol. 15 (no. 6); p. 564-570

Publication Type(s): Journal Article Review

Abstract:PURPOSE OF REVIEWDue to older people's low sports participation rates, exercise frequency may be the most critical component for designing exercise protocols that address fracture risk. The aims of the present article were to review and summarize the independent effect of exercise frequency (ExFreq) on the main determinants of fracture prevention, i.e., bone strength, fall frequency, and fall impact in older adults. **[ABSTRACT EDITED]**

Mini-Nutritional Assessment Short-Form as a useful method of predicting poor 1-year outcome in elderly patients undergoing orthopedic surgery.

Author(s): Chu, Che-Sheng; Liang, Chih-Kuang; Chou, Ming-Yueh; Lu, Ti; Lin, Yu-Te; Chu, Chin-Liang

Source: Geriatrics & gerontology international; Dec 2017; vol. 17 (no. 12); p. 2361-2368

Publication Type(s): Journal Article

Abstract:AIMThe present study aimed to determine whether the Mini-Nutritional Assessment Short-Form (MNA-SF) can predict the 1-year outcome of orthopedic fracture surgery in elderly patients. **[ABSTRACT EDITED]**

FRAIL Questionnaire Screening Tool and Short-Term Outcomes in Geriatric Fracture Patients.

Author(s): Gleason, Lauren Jan; Benton, Emily A; Alvarez-Nebreda, M Loreto; Weaver, Michael J

Source: Journal of the American Medical Directors Association; Dec 2017; vol. 18 (no. 12); p. 1082-1086

Publication Type(s): Journal Article

Abstract:OBJECTIVESThere are limited screening tools to predict adverse postoperative outcomes for the geriatric surgical fracture population. Frailty is increasingly recognized as a risk assessment to capture complexity. The goal of this study was to use a short screening tool, the FRAIL scale, to categorize the level of frailty of older adults admitted with a fracture to determine the association of each frailty category with postoperative and 30-day outcomes. **[ABSTRACT EDITED]**

Is treatment of geriatric hip fracture patients cost-covering? Results of a prospective study conducted at a German University Hospital.

Author(s): Aigner, Rene; Hack, Juliana; Eschbach, Daphne; Ruchholtz, Steffen; Knobe, Matthias

Source: Archives of orthopaedic and trauma surgery; Dec 2017

Publication Type(s): Journal Article

Abstract:INTRODUCTIONHip fractures have increased medical and socio-economic importance due to demographic transition. Information concerning direct treatment costs and their reimbursement in Germany is lacking.MATERIALS AND **[ABSTRACT EDITED]**

Effectiveness of nutritional interventions addressed to elderly persons: umbrella systematic review with meta-analysis.

Author(s): Poscia, Andrea; Milovanovic, Sonja; La Milia, Daniele Ignazio; Duplaga, Mariusz

Source: European journal of public health; Dec 2017

Publication Type(s): Journal Article

Abstract: BackgroundThe number of Europeans aged over 65 will double between 2010 and 2060, reaching 30% of the European population. Nutrition is emerging as a key element of healthy life since both obesity and malnutrition are established risk factors for morbidity and disability. The aim of this umbrella review (UR) is to summarize the findings of all current systematic reviews (SRs) and

meta-analyzes (MAs) on the effectiveness of nutritional intervention designed to promote healthy aging in older individuals. **[ABSTRACT EDITED]**

Nationwide Analysis of Femoral Neck Fractures in Elderly Patients: A Receding Tide.

Author(s): Ju, Derek G; Rajaee, Sean S; Mirocha, James; Lin, Carol A; Moon, Charles N

Source: The Journal of bone and joint surgery. American volume; Nov 2017; vol. 99 (no. 22); p. 1932-1940

Publication Type(s): Journal Article

Available at The Journal of bone and joint surgery. American volume - from Ovid (Journals @ Ovid)

Abstract:BACKGROUNDGeriatric femoral neck fractures are associated with substantial morbidity and medical cost. We evaluated the incidence and management trends of femoral neck fractures in recent years in the U.S. **[ABSTRACT EDITED]**

Older Adults Undergoing Total Hip or Knee Arthroplasty: Chronicling Changes in Their Multimorbidity Profile in the Last Two Decades.

Author(s): Koroukian, Siran M; Schiltz, Nicholas K; Warner, David F; Klika, Alison K

Source: The Journal of arthroplasty; Nov 2017

Publication Type(s): Journal Article

Abstract:BACKGROUNDDespite the ubiquitous use of total hip arthroplasty (THA) and total knee arthroplasty (TKA) in older adults, little is known about the multimorbidity (MM) profile of this patient population. This study evaluates the temporal trends of MM, hypothesizing that patients with MM have had an increasingly greater representation in THA and TKA patients over time. **[ABSTRACT EDITED]**

Upper-limb motor and sensory function in patients with hip fracture: Comparison with community-dwelling older adults.

Author(s): Hayashi, Hiroyuki; Nakashima, Daiki; Matsuoka, Hiroka; Iwai, Midori; Nakamura, Shugo

Source: Journal of back and musculoskeletal rehabilitation; Nov 2017; vol. 30 (no. 6); p. 1231-1236

Publication Type(s): Journal Article

Abstract:BACKGROUNDUpper-limb function is important in patients with hip fracture so they can perform activities of daily living and participate in leisure activities. Upper-limb function of these patients, however, has not been thoroughly investigated.OBJECTIVEThe aim of this study was to evaluate the upper-limb motor and sensory functions in patients with hip fracture by comparing these functions with those of community-dwelling older adults (control group). **[ABSTRACT EDITED]**

Effect of monthly high-dose vitamin D on bone density in community-dwelling older adults substudy of a randomized controlled trial.

Author(s): Reid, I R; Horne, A M; Mihov, B; Gamble, G D; Al-Abuwsi, F; Singh, M; Taylor, L;

Source: Journal of internal medicine; Nov 2017; vol. 282 (no. 5); p. 452-460

Publication Type(s): Randomized Controlled Trial Journal Article

Abstract:BACKGROUNDSevere vitamin D deficiency causes osteomalacia, yet trials of vitamin D supplementation in the community have not on average demonstrated benefit to bone mineral density (BMD) or fracture risk in adults.OBJECTIVETo determine whether monthly high-dose vitamin

D supplementation influences BMD in the general population and in those with low 25-hydroxyvitamin D levels. **[ABSTRACT EDITED]**

The cost and mortality of hip fractures in centenarians.

Author(s): Moore, J; Carmody, O; Carey, B; Harty, J A; Reidy, D

Source: Irish journal of medical science; Nov 2017; vol. 186 (no. 4); p. 961-964

Publication Type(s): Journal Article

Abstract:BACKGROUNDCentenarians are the fastest rising age group in Ireland. Hip fractures most commonly affect older adults and are associated with significant morbidity and mortality, as well as the financial cost of healthcare resources. Despite this, very little is known regarding hip fractures in centenarians. The aim of this study was to investigate our experience with hip fractures in this group and to record the cost of treating these fractures to identify both the social and economic impact these injuries impose on the health system. **[ABSTRACT EDITED]**

A systematic review of evidence for older adults' sedentary behavior and physical activity after hip fracture.

Author(s): Zusman, Enav Z; Dawes, Martin G; Edwards, Nicola; Ashe, Maureen C

Source: Clinical rehabilitation; Nov 2017 ; p. 269215517741665

Publication Type(s): Journal Article

Abstract:OBJECTIVETo synthesize evidence on older adults' sedentary behavior and physical activity during rehabilitation and recovery for hip fracture (1) across the care continuum and (2) from clinical interventions.DESIGNWe conducted a systematic review of peer-reviewed publications using CINAHL, Embase, Ovid MEDLINE, PsycINFO, and SportDiscus (last search: 17 October 2017). **[ABSTRACT EDITED]**

Predictors of postoperative falls in the first and second postoperative years among older hip fracture patients.

Author(s): Yeh, Hsiang-Fen; Shao, Jung-Hua; Li, Chia-Lin; Wu, Chi-Chuan; Shyu, Yea-Ing L

Source: Journal of Clinical Nursing; Nov 2017; vol. 26 (no. 21/22); p. 3710-3723

Publication Type(s): Academic Journal

Abstract: Aims and objectives To explore risk factors for a single fall and multiple falls in the first and second postoperative years among older hip fracture patients. Background Older hip fracture patients have a high probability of falling again after a fall incident. Risk factors for postoperative falls among older hip fracture patients in Taiwan remain to be confirmed. **[ABSTRACT EDITED]**

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Bone and Joint Journal (UK)

November 2017, Volume 99-B, Issue 11

Osteoporosis International

December 2017, Volume 28, Issue 12

Exercise: Heterogeneity

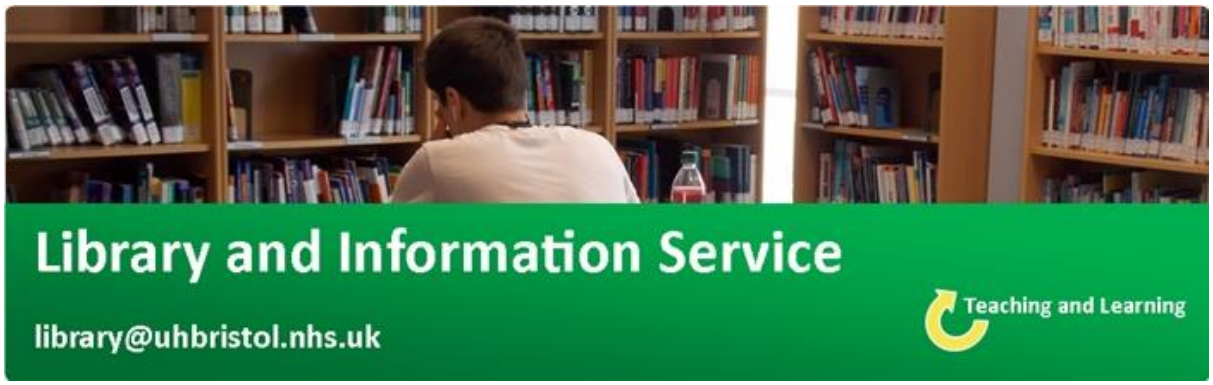
Heterogeneity is the extent to which studies brought together in a systematic review demonstrate variation across a range of key variables.

Match the different types of heterogeneity:

1. Statistical heterogeneity (conventionally just known as 'heterogeneity')
2. Methodological heterogeneity
3. Clinical heterogeneity

A. Variability in the participants, interventions and outcomes studied
B. Variability in study design and risk of bias
C. Variability in the intervention effects being evaluated in the different studies

Answers: 1C, 2B, 3A



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